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PART IV

FEDERAL ENERGY ADMINISTRATION

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ENERGY SUPPLY AND ENVIRONMENTAL COORDINATION ACT

Intent To Issue Construction Orders to Certain Major Fuel Burning Installations

FEDERAL ENERGY ADMINISTRATION

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Intent To Issue Construction Orders to Certain Major Fuel Burning Installations

The Federal Energy Administration (FEA) hereby gives notice of its intention to issue Construction Orders pursuant to Section 2(c) of the Energy Supply and Environmental Coordination Act of 1974, as amended (ESECA), and Title 10, Code of Federal Regulations (10 CFR), Parts 303 and 307 to the following installations in the early planning process:

Docket No.	Owner	Installation	Number of units	Location
OCU-7410-3-1	United States Steel Corp.	Fairfield	2	Fairfield, Ala.
OCU-7410-3-2				
OCU-3990-1-1	International Paper Co.	Georgetown mill	1	Georgetown, S.C.
OCU-6650-5-1	Shell Oil Co.	Mobile chemical plant	2	Mobile, Ala.
OCU-6650-5-2				
OCU-1300-1-1	Goodyear Tire & Rubber Co.	Goodyear Gadsden plant	1	Gadsden, Ala.
OCU-7060-1-1	J. P. Stevens & Co., Inc.	Delta 3	1	Wallace, S.C.
OCU-4210-1-1	Kimberly-Clark Corp.	Memphis mill	1	Memphis, Tenn.
OCU-4920-1-1	Philip Morris, Inc./Miller Brewing Co.	Eden plant	3	Eden, N.C.
OCU-4920-1-2				
OCU-4920-1-3				
OCU-3280-1-1	B. F. Goodrich Co./B. F. Goodrich Chemical Co.	Louisville plant	1	Louisville, Ky.
OCU-2820-1-1	Federal Paper Board Co., Inc.	Rieglewood operations	1	Rieglewood, N.C.

FEA hereby also gives notice of the opportunity for written and oral presentation of data, views, and arguments by interested persons regarding these proposed Construction Orders.

The proposed orders would require the above-named installations in the early planning process to be designed and constructed to be capable of using coal as their primary energy source.

Prior to the issuance of a Construction Order to an installation, Section 2(c) of ESECA and 10 CFR 303.46(b), 307.3, and 307.3(c) require that FEA find that the installation is in the early planning process. They also prohibit FEA from issuing a Construction Order if FEA finds that an adequate and reliable supply of coal and coal transportation facilities are not reasonably expected to be available. FEA's proposed findings, as well as its proposed conclusions and rationale with respect to these findings, for the powerplant are set out in Section I of the Appendix to the notice. These findings, conclusions and rationale may be amended as a result of comments received by FEA pursuant to this notice and other information available to FEA. The findings, conclusions and rationale will be included, with any amendments, in the Construction Order if it is issued.

In addition, Section 2(c) of ESECA and 10 CFR 303.46(b), 307.3(d) require that FEA consider certain other factors prior to issuance of a Construction Order. FEA's initial conclusions and a brief statement of the rationale for each, with respect to such considerations, are set out in Section II of the Appendix to this notice. The conclusions and rationale may be amended as a result of comments received by FEA pursuant to this notice and other information available to FEA. The conclusions and rationale will be included, with any amendments, in the Construction Order if it is issued.

Upon completion of the proceeding described in this notice, FEA may determine to issue Construction Orders to some or all of the above-named installations. The Construction Orders will not become effective, however, until FEA has considered the environmental impact of each order, pursuant to 10 CFR 208.3(a)(4) and 307.7, and has served the affected installation with a Notice of Effectiveness, as provided in 10 CFR 303.10(b), 303.47(b), and 307.5. 10 CFR 307.7(c) requires that, prior to the issuance of a Notice of Effectiveness to an installation, FEA shall perform an analysis of the environmental impact of the issuance of such Notice of Effectiveness. That analysis shall result in either (1) a declaration that the Construction Order will not, if made effective by a Notice of Effectiveness, be likely to have a significant impact on the quality of the human environment; or, (2) the preparation by FEA of an environmental impact statement covering the significant site-specific impacts that are likely to result from the Construction Order and that have not been adequately addressed in the Final Programmatic Environmental Impact Statement or in other official documents made publicly available. If FEA prepares an environmental impact statement covering significant site-specific impacts from the Construction Order, the statement shall be prepared and published for comment in accordance with Section 102(2)(c) of the National Environmental Policy Act of 1969 prior to issuance of a Notice of Effectiveness. Interested persons may request a public hearing pursuant to 10 CFR 303.173 to comment on the contents of a draft environmental impact statement.

Public comment on the proposal to issue a Construction Order to the installations listed above is invited in the form of written and oral presentation of data, views and arguments.

Comments should address (1) the adequacy and validity of each of the proposed findings and the conclusions and rationale in support of these findings, as well as the conclusions with respect to the other factors FEA must consider and rationale in support of these conclusions, (2) the environmental impact of the issuance of making effective a Construction Order, including any site specific environmental impacts, and (3) any other aspects or impacts of the proposed Construction Order, believed to be relevant.

Any installation issued a Construction Order will have to comply with applicable new source performance standards prescribed by the Environmental Protection Agency under the Clean Air Act, as amended (42 U.S.C. 1857 et seq.).

Pursuant to 10 CFR 303.173 (a) and (d), FEA hereby announces that a public hearing to receive oral presentation of data, views and arguments from interested persons will be held beginning at 9 a.m. on May 26 and 27, 1977, at the Atlanta Civic Center, Room 104, 395 Piedmont Avenue NE., Atlanta, Georgia 30308. Any person who has an interest in the subject of the hearing, may make a written request or a verbal request if confirmed in writing, for an opportunity to make an oral presentation. That request should be directed to Warren Zurn, FEA Region IV, 1655 Peachtree Street NE., Atlanta, Georgia 30309, 405–881–4463. The request should be received before 4:30 p.m., Friday May 20, 1977. The request should describe the person's interest in the issue(s) involved; if appropriate, it should state why the person is an appropriate representative of the group or class of persons which has such an interest; it should give a concise summary of the proposed oral presentation and a phone number where the person may be contacted through May 25, 1977. Speakers should submit 10 copies of their oral presentation if possible, unless such presentation is less than five (5) pages, in which case only one copy is required to Donald Allen, Regional Administrator, Federal Energy Administration, 1655 Peachtree Street NE., Atlanta, Georgia 30309, before 4:30 p.m., Wednesday May 25, 1977. Speakers will be contacted by an FEA representative before 4:30 p.m., Monday, May 23, 1977, to confirm receipt of the written request.

Detailed technical data, views, and arguments should be contained in a written submission in support of the oral presentation. The oral presentation itself should be a summary of those written comments.

While FEA will endeavor to provide adequate opportunity to all who desire to speak, FEA reserves the right to limit the number of persons to be heard at the hearing, to schedule their respective presentations, and to establish the procedures governing the conduct of the hearing. The length of time allocated to each presentation may be limited on the basis of the number of persons requesting to be heard. The FEA will prepare an agenda that shall provide, to the extent possible, for the presentation of all relevant data, views, and arguments.

An FEA official will be designated to preside at the hearing, which will not be a judicial or evidentiary hearing. During oral presentations, only those conducting the hearing may ask questions. There will be no cross-examination. At the conclusion of all initial oral presentations, each person who has made an oral statement will be given the opportunity, if he or she so desires, to make a rebuttal

statement. The rebuttal statements will be given in the order in which the initial statements were made and will be subject to time limitations.

Any interested person may submit written questions to the presiding officer to be asked of any person making an oral presentation. The presiding officer will determine whether to ask the question, having first determined whether the question is relevant, and whether adequate time may be afforded for an answer.

Any further procedural rules needed for the proper conduct of the hearing will be announced by the presiding officer.

A transcript of the hearing will be made and it, together with any written comments submitted in the course of the hearing, will be retained by the FEA and made available for inspection and copying at the Freedom of Information Reading Room, Room 2107, Federal Building, 12th and Pennsylvania Avenue NW., Washington, D.C., and the FEA Regional Office 1655 Peachtree Street NE., 7th Floor, Atlanta, Georgia 30309, between the hours of 8 a.m. and 4:30 p.m., Monday through Friday. Anyone may purchase a copy of the transcript from the reporter.

Interested persons are invited to submit written comments consisting of data, views, or arguments with respect to the proposed Construction Orders to Executive Communications, Federal Energy Administration, Federal Building, Room 3317, Box MK, Washington, D.C. 20461.

Comments and other documents submitted to FEA Executive Communications should be identified on the outside of the envelope in which they are transmitted and on the document itself with the designation "Proposed Construction Order for the _____ Installation." Fifteen copies should be submitted.

All written comments received by 4:30 p.m., Tuesday, June 14, 1977, all oral presentations, and all other relevant information submitted to or otherwise available to FEA will be considered by FEA prior to issuance of a Construction Order.

Any information or data considered by the person furnishing it to be confidential must be so identified and submitted in writing, one copy only. The FEA reserves the right to determine the confidential status of the information or data and to treat it in accordance with that determination.

Copies of the regulations implementing Section 2 of ESECA (10 CFR Parts 303 and 307) are available from the FEA Regional Offices:

FEDERAL ENERGY ADMINISTRATION, REGIONAL OFFICES

Region, Address, and Phone

I. Robert Mitchell, Regional Administrator, 150 Causeway Street, Room 700, Boston, Mass. 02113—617–223–3701.

II. Alfred Kleinfeld, Regional Administrator, 26 Federal Plaza, Room 3206, New York, N.Y. 10007—212–264–1021.

III. J. A. LaSala, Regional Administrator, 1421 Cherry Street, Room 1001, Philadelphia, Pa. 19102—215–597–3390.

IV. Donald Allen, Regional Administrator, 1655 Peachtree Street NW., 8th Floor, Atlanta, Ga. 30309—404–526–2837.

V. N. Allen Andersen, Regional Administrator, Federal Office Building, Room A-333, 175 West Jackson Blvd., Chicago, Ill. 60604—312–353–0540.

VI. Delbert Fowler, Regional Administrator, P.O. Box 35228, 2626 West Mockingbird Lane, Dallas, Tex. 214–749–7345.

VII. Neil Adams, Regional Administrator, 1150 Grand Avenue, Kansas City, Mo. 64106—816–374–2061.

VIII. Dudley Faver, Regional Administrator, P.O. Box 26247, Belmar Branch, 1075 South Yukon Street, Lakewood, Colo. 80226—303–234–2420.

IX. William Arntz, Regional Administrator, 111 Pine Street, San Francisco, Calif. 94111—415–556–7216.

X. Jack B. Robertson, Regional Administrator, 1992 Federal Building, 915 Second Avenue, Seattle, Wash. 98174—206–442–7280.

MFBI CONSTRUCTION ORDER CANDIDATE IDENTIFICATION AND SELECTION METHODOLOGY

FEA has conducted a two part process in which it first identified the potential universe of major fuel burning installations (MFBI's) that were in the early planning process in order to determine which MFBI's might be subject to Construction Orders requiring that the MFBI be designed and constructed to be capable of using coal as its primary energy source. FEA then performed a detailed analysis of individual potential order recipients to determine whether the facts would warrant publication of a Notice of Intention (NOI) to Issue a Construction Order to any of the potential order recipients.

I. *Determination of candidate universe.* On February 3, 1977, FEA published in the FEDERAL REGISTER (42 FR 6621) a notice requiring owners of MFBI's in the early planning process to complete Schedules A–1 and A–2 of Form FEA C–607–S–0, entitled "Major Fuel Burning Installation Early Planning Process Identification Report." (An MFBI has entered the early planning process by completing its preliminary feasibility study.) Respondents were required to complete these schedules if the MFBI's were planned with at least the minimum required design firing rate (generally 100 MM Btu per hour).

Schedulue A–1 contained basic identifying data for a particular MFBI. Schedule A–2 is designed to provide FEA with information on combustor capacity, combustor use, the primary energy source, and the design and construction schedule, including the processing status of any required government permits.

After receiving the information on Schedules A–1 and A–2, FEA first determined which MFBI's were no longer in the early planning process according to Section 307.2 of the FEA regulations, which states that the early planning process terminates when the MFBI "can no longer be ordered, to be designed and constructed so as to be capable of burning coal as its primary energy source without suffering significant financial or operational detriment due to the impairment of prior commitments."

In addition, FEA deferred from further consideration certain other MFBI's based on the information contained in Schedules A–1 and A–2. To date, consideration of the following types of MFBI's has been deferred:

(a) Those planning to use exclusively non-fossil fuels as their primary energy source, usually wood waste, bagasse, or electricity;

(b) Those planned so as to be capable of using only coal as their primary energy source;

(c) Those planning to construct units that will be used exclusively for process uses that require utilization of natural gas or petroleum products (process use is defined in section 303.2 of the FEA regulations (10 CFR 303.2) as that fuel use for which alternate fuels are not technically feasible);

(d) Those planning exclusively to use waste gas that would not be added to the nationwide pipeline supply, or petroleum by-products that are not suitable for general commercial uses (typically these fuels are waste gases or petroleum by-products generated by refinery processes and are used in refinery steam generators).

Issuing orders to the first category of MFBI's, above, would not contribute to the saving of any oil or natural gas. Burning of non-fossil fuels, furthermore, contributes to the purpose of ESECA to aid in meeting the essential needs of the United States for fuels in the same manner as does the increased burning of coal.

In addition, FEA has exercised its administrative discretion to defer consideration of MFBI's currently planning to burn coal as their only energy source because of programmatic necessity to establish reasonable priorities. Should either units planning to use a non-fossil fuel, or units planning to burn only coal change their current plans they are to amend their response to Form FEA C–607–S–0.

FEA has applied its administrative discretion and technical expertise to determine that certain types of facilities should be covered by the "process use" exemption referred to in subparagraph (c) above. Certain of these processes reflect uses for which the burning of coal is not technically feasible. The following types of facilities have been included to date in the "process use" exemption:

(1) Refinery heaters and furnaces;

(2) Copper refining and melting furnaces;

(3) Chemical plant process heaters and recovery furnaces;

(4) Oxygen blown steelmaking vessels;

(5) Primary float glass tanks;

(6) Direct fired kilns and dryer burners (producing low alkaline products).

FEA has also determined that deferring issuance of NOI's to those MFBI's that use waste gas or petroleum by-products not suitable for other commercial uses would best serve the purposes of ESECA. The uses to which these waste fuels are currently put represent efficient use of national resources. Prohibiting the

use of these waste fuels would not significantly conserve national supplies of scarce fuels.

MFBI's deferred on the basis of the above criteria are notified by letter that they will not be required to submit further information at this time. All other MFBI's in the early planning process are required by FEA to complete Schedule A–3 of Form FEA C–607–S–0. Schedule A–3 is designed to elicit detailed financial information about the MFBI owner's estimate of capital costs that would be associated with the construction of a coal capable unit. Comparative fuel costs and the net operating cost differential resulting from burning coal are also elicited by Schedule A–3. The owner's financial history and information on coal availability are also obtained.

After receipt of the information contained in Schedule A–3, FEA analyzes the capability of the owner of the MFBI to recover any increase in projected capital investment costs required as a result of a Construction Order. An owner of an MFBI is capable of recovering any increase in projected capital investment that might be required as a result of a Construction Order if the MFBI is able to make the original investment planned (prior to issuance of a Construction Order) plus any increase required as a result of a Construction Order and continue in business in at least a financially breakeven posture over the long run. FEA presumes that an MFBI owner's capability to recover capital is confirmed when that owner can both raise the necessary capital for construction of an MFBI with coal burning capability and can show an historical profit profile. Factors used in analyzing that presumption include the size of the additional capital investment necessary to comply with a Construction Order, net property and plant assets, historical construction expenditures and total equity of the owner. FEA also considers any loss of revenue resulting from a delay caused by a Construction Order. Such losses, if any, are considered in terms of increased or additional costs which an MFBI incurs for goods or services, including power, which must be purchased by the MFBI to replace those goods or services which the MFBI would have produced for itself but for the issuance of a Construction Order. Such costs will be limited to the difference between the anticipated cost of production of the goods or services at the MFBI, and the cost of purchasing replacement goods or services.

In addition, section 2(c) of ESECA indicates that FEA may not issue Construction Order NOI's to an MFBI if it determines that an adequate and reliable supply of coal is not expected to be available. To meet this statutory requirement, FEA considers the availability nationwide of total tonnages of coal, based upon the presumption that an MFBI in the early planning process can be designed and constructed to use a wide range of coal types available.

FEA also considers, prior to issuance of an MFBI Construction Order NOI, the existence and effects of any contractual commitment for the construction of the MFBI upon the owner's capability to recover any increase in capital investment required as a result of a Construction Order.

It is to be noted that much of the information used by FEA to make its practicability findings is arguably confidential under 18 U.S.C. 1905. Therefore, such information has not appeared in the Appendix to the NOI. The calculations have been explained in each case and the data are available to the representatives of the owner of the MFBI.

Any questions regarding this Notice should be directed to the FEA National Office as follows: Federal Energy Administration, Code OCU (Construction Order: _____ Installation), Washington, D.C. 20461, 202–566–7941.

(Energy Supply and Environmental Coordination Act of 1974 (15 U.S.C. 791 et seq.), as amended by Pub. L. 94–163; Federal Energy Administration Act of 1974 (15 U.S.C. 761 et seq.), as amended by Pub. L. 94–385; E.O. 11790 (39 FR 23185).)

Issued in Washington, D.C., May 9, 1977.

ERIC J. FYGI,
Acting General Counsel,
Federal Energy Administration.

APPENDIX—PROPOSED FINDINGS AND RATIONALE FOR NOTICE OF INTENTION TO ISSUE A CONSTRUCTION ORDER

ESECA and the FEA regulations require FEA to make certain findings and determinations and to consider certain factors before issuing a Construction Order to a Major Fuel Burning Installation (MFBI). FEA's proposed findings, as well as its proposed conclusions with respect to the factors FEA has considered, are set out below with respect to the MFBI's named below. Supporting rationale and conclusions are also set forth.

Docket No.	Owner	Installation	Unit	Location
OCU-7410-3-1 OCU-7410-3-2	United States Steel Corp.	Fairfield	Boiler 9... Boiler 10	Fairfield, Ala.

These findings, determinations, and considerations, which are now proposed by FEA, are based on the information that has been provided to and developed by FEA prior to the issuance of this Notice of Intention (NOI) to issue a Construction Order.

United States Steel Corporation shall be referred to as the "owner." Fairfield Boilers 9 and 10 shall be referred to as the "MFBI's."

I. *Proposed findings.* A. *The MFBI's are in the early planning process.* Based on an analysis of the information submitted to FEA by the owner on Form FEA C–607–S–0 and information provided by the owner in response to subsequent inquiry to assure the continued applicability and currency of such information, including, as appropriate, an on-site inspection visit, FEA proposes to find that the MFBI's are in the early planning process. This proposed finding is based on the facts, assumptions and reasoning referenced below:

1. Schedule A–2 of Form FEA C–607–S–0 submitted by the owner shows that the preliminary feasibility study was completed.

2. Information supplied by the owner or otherwise acquired by FEA indicates that the early planning process for these MFBI's has not terminated.

3. Schedule A–2 of Form FEA C–607–S–0 submitted by the owner shows that the MFBI's meet the minimum design firing rate requirement.

B. *Within the terms of ESECA, FEA has been unable to determine that an adequate and reliable supply of coal is not expected to be available.* This proposed determination is based upon the facts, interpretations and assumptions stated below:

1. *Coal availability.* (a) *National coal reserves.* United States coal reserves are more than sufficient to supply national needs for the future. United States Department of the Interior, Bureau of Mines (BOM) data show a demonstrated coal reserve base of over 400 billion tons, over half of which is currently technically and economically recoverable (Demonstrated Coal Reserve Base of the United States, by Sulfur Category, on January 1, 1974, Bureau of Mines (May 1975) [hereafter "BOM Survey"]). Within these recoverable reserves approximately 200 billion tons contain 1 percent or less sulfur by weight. To determine when certain quantities of these reserves are expected to be available, FEA has examined several studies referenced herein, which together provide the best current evidence as to coal availability.

(b) *National coal production and demand.* The comparison, stated below, of estimated national coal production, national coal demand, and the total tonnage of uncommitted planned coal production (derived from responses to a survey of coal producing companies) shows that there should be sufficient production of coal to meet the total national demand through 1980. Beyond 1980, plans for new production are not yet fully developed because few coal producers have firm expansion plans that extend that far into the future; however, the projected total planned national coal production for 1985 already meets over 99% of the total U.S. demand expected in 1985. With time, more potential mine developments will become firm plans, thus increasing the planned production.

(1) *National coal production.* It is conservatively estimated that it will be practicable to produce coal nationally in at least the following quantities:

Year:	*Production potential (million tons)*
1977	732.3
1978	791.6
1979	851.4
1980	911.7
1981	960.0
1982	994.3
1983	1,017.4
1984	1,028.7
1985	1,029.6

The figures shown above are derived from FEA's Coal Mine Expansion Study (May 1976). This study demonstrates that most coal producers did not have firm or accurate plans for new capacity additions beyond 1980. The 1985 projection, therefore, tends to underestimate actual production potential.

An FEA study, Coal Availability Report, April 1977, (hereafter "Availability Report"), indicates current plans for nationwide production of uncommitted coal as follows:

Year:	Production (million tons)
1978	124.3
1979	243.1
1980	293.3
1981	350.0
1982	369.9
1983	396.2
1984	475.5
1985	544.9

(2) *National demand exclusive of ESECA prohibition order demand.* The estimated national demand, excluding any increased demand resulting from FEA action under the auhtority of Section 2(a) of ESECA, is as follows (FEA 1976 National Energy Outlook):

Year:	Demand (million tons)
1978	730
1979	764
1980	799
1981	842
1982	887
1983	935
1984	985
1985	1,040

(3) *National ESECA prohibition order demand.* The estimated potential demand for coal resulting from all Notices of Intention to issue Prohibition Orders to date and from all outstanding Prohibition Orders issued to date under Section 2(a) of ESECA is no more than the following ("Availability Report"):

Year:	Demand (million tons)
1978	11.0
1979	22.4
1980	32.5
1981	35.8
1982	57.4
1983	59.8
1984	59.8

(c) *State or local laws.* FEA has found no state or local laws or policies limiting the extraction or utilization of coal that would adversely affect these production figures, and none have been brought to FEA's attention.

(d) *Conclusion.* Potential coal demand from these MFBI's and from all other MFBI's which are currently under consideration to receive Notices of Intention to issue Construction Orders under authority of Section 2(c) of ESECA is not included in the total national demand stated in paragraph 1.(b)(2), above. Coal demand from such MFBI's is also not calculated in currently projected ESECA generated demand since it is infeasible to anticipate specific quality characteristics for the coal that will be required by these MFBI's so far in advance of their actual construction.

As noted previously, plans for new coal production beyond 1980 are not yet fully developed because few coal producers have firm expansion plans that extend that far into the future. The projection for national coal production potential in 1985 cited in paragraph 2.(a), above, tends to underestimate actual production potential.

FEA has considered these facts and the fact that the potential annual demand for coal will increase once these MFBI's and others become operational.

FEA expects, however, (based on an analysis of the "BOM Survey", the Coal Mine Expansion Study, the FEA 1976 National Energy Outlook, and the "Availability Report", cited above) that national coal production potential will substantially exceed the total national demand for coal in amounts sufficient in any year to meet the estimated potential additional demand for coal if all MFBI's currently under consideration were to receive Construction Orders under Section 2(c) of ESECA. Within the terms of ESECA, FEA has been unable to determine that coal is not expected to be available for these MFBI's once they become operational. The best available evidence suggests that coal production potential will, in fact, considerably exceed all demand for the years pertinent to this proposed order.

The coal for these MFBI's will probably be bought from producers according to regional supply/demand relationships related to the MFBIs' location. FEA observes, however, that the MFBI's could purchase coal in other markets as such production becomes available. (The Feasibility of Considering Expanded Use of Western Coal by Midwestern and Eastern Utilities in the Period 1978 and Beyond, School of Engineering, University of Pennsylvania, November 7, 1975.)

(e) *Coal transportation.* FEA has considered the availability of national coal transportation facilities. Generally, FEA considers construction lead times pertinent to MFBI's in the early-planning process to be sufficient to allow owners to secure appropriate coal transportation and coal transportation facilities prior to becoming operational.

II. *Factors which ESECA requires FEA to consider.*

A. *The existence and effects of any contractual commitment for the construction of the MFBI's.* FEA has considered the existence and effects of any contractual commitment for the construction of the MFBI's which the owner has reported to FEA in a Schedule of Plan Change Costs attachment to a Form FEA C–607–S–0 Schedule A-3, or otherwise. FEA has considered the additional costs which would be incurred in connection with existing contractual commitments should FEA require that the MFBI's be designed and constructed to be capable of using coal as their primary energy source. Accordingly, FEA has included these costs in its consideration of the capability of the owner to recover any increase in capital investment required as a result of a Construction Order.

B. *The capability of the owner to recover any increase in projected capital investment required as a result of a construction order.* FEA has considered, in the manner described below, the capability of the owner to raise and to recover the increased capital investment expected to result from the issuance of a Construction Order.

1. *Increased capital investment required as a result of a construction order.* FEA has evaluated the additional capital investment costs required in order to design and construct the MFBI's to be capable of burning coal as their primary energy source. This calculation is based on existing FEA information and analysis, as well as information filed with FEA by the owner concerning the cost of equipment and facilities that would have to be acquired. Approximate costs to comply with applicable environmental protection requirements have also been considered, including the cost of compliance with the air pollution control requirements of the Clean Air Act.

2. *Capability of the owner to raise the increased capital investment.* This analysis is based upon an evaluation of the owner's current financial position as reported in the Dun and Bradstreet Reference Book, (March 1977). Where necessary, FEA has performed an independent analysis of the owner's financial capability. In those cases in which an independent analysis of the owner's ability to recover the additional capital investment was performed, FEA related the additional capital investment costs discussed in paragraph B.1., above, and the plan change costs discussed in paragraph II. A., above, to the owner's net property and plant assets, the owner's reported recent construction expenditures and the owner's equity.

In considering the owner's ability to recover the increased capital investment costs, FEA has compared these increased costs, the demonstrated ability of the owner to raise the additional capital, any loss of revenue resulting from a delay, if any, in the commencement of operations of the MFBI's resulting from a Construction Order, the owner's historical profit profile, and a presumed useful life of the MFBI's after construction of 40 years.

In light of such considerations, FEA presumes that the owner's capability to recover any increase in capital is confirmed since the owner can both raise the necessary additional capital for construction with coal burning capability and has historically shown a profit profile.

Appendix—Proposed Findings and Rationale for Notice of Intention To Issue a Construction Order

ESECA and the FEA regulations require FEA to make certain findings and determinations and to consider certain factors before issuing a Construction Order to a Major Fuel Burning Installation (MFBI). FEA's proposed findings, as well as its proposed conclusions with respect to the factors FEA has considered, are set out below with respect to the MFBI's named below. Supporting rationale and conclusions are also set forth.

Docket No.	Owner	Installation	Number of units	Location
OCU–3990–1–1	International Paper Co.	Georgetown mill	6	Georgetown, S.C.

These findings, determinations and considerations, which are now proposed by FEA, are based on the information that has been provided to and developed by FEA prior to the issuance of this Notice of Intention (NOI) to issue a Construction Order.

International Paper Company shall be referred to as the "owner". Georgetown Mill 6 shall be referred to as the "MFBI".

I. *Proposed findings.*—A. *The MFBI is in the early planning process.* Based on an analysis of the information submitted to FEA by the owner on Form FEA C–607–S–0 and information provided by the owner in response to subsequent inquiry to assure the continued applicability and currency of such information, including, as appropriate, an on-site inspection visit, FEA proposes to find that the MFBI is in the early planning process. This proposed finding is based on the facts, assumptions and reasoning referenced below:

1. Schedule A–2 of Form FEA C–607–S–0 submitted by the owner shows that the preliminary feasibility study was completed.

2. Information supplied by the owner or otherwise acquired by FEA indicates that the early planning process for this MFBI has not terminated.

3. Schedule A–2 of Form FEA C–607–S–0 submitted by the owner shows that the MFBI meets the minimum design firing rate requirement.

B. *Within the terms of ESECA, FEA has been unable to determine that an adequate and reliable supply of coal is not expected to*

be available. This proposed determination is based upon the facts, interpretations and assumptions stated below:

1. *Coal availability.*—(a) *National coal reserves.* United States coal reserves are more than sufficient to supply national needs for the future. United States Department of the Interior, Bureau of Mines (BOM) data show a demonstrated coal reserve base of over 400 billion tons, over half of which is currently technically and economically recoverable (Demonstrated Coal Reserve Base of the United States, by Sulfur Category, on January 1, 1974, Bureau of Mines (May 1975) (hereafter "BOM Survey")). Within these recoverable reserves approximately 200 billion tons contain 1 percent or less sulfur by weight. To determine when certain quantities of these reserves are expected to be available, FEA has examined several studies referenced herein, which together provide the best current evidence as to coal availability.

(b) *Nation coal production and demand.* The comparison, stated below, of estimated national coal production, national coal demand, and the total tonnage of uncommitted planned coal production (derived from responses to a survey of coal producing companies) shows that there should be sufficient production of coal to meet the total national demand through 1980. Beyond 1980, plans for new production are not yet fully developed because few coal producers have firm expansion plans that extend that far into the future; however, the projected total planned national coal production for 1985 already meets over 99 percent of the total U.S. demand expected in 1985. With time, more potential mine developments will become firm plans, thus increasing the planned production.

(1) *National coal production.* It is conservatively estimated that it will be practicable to produce coal nationally in at least the following quantities:

Year:	*Production potential (million tons)*
1977	732.3
1978	791.6
1979	851.4
1980	911.7
1981	960.0
1982	994.3
1983	1,017.4
1984	1,028.7
1985	1,029.6

The figures shown above are derived from FEA's Coal Mine Expansion Study (May 1976). This study demonstrates that most coal producers did not have firm or accurate plans for new capacity additions beyond 1980. The 1985 projection, therefore, tends to underestimate actual production potential.

An FEA study, Coal Availability Report, April 1977, (hereafter "Availability Report"), indicates current plans for nationwide production of uncommitted coal as follows:

Year:	*Production (million tons)*
1978	124.3
1979	243.1
1980	293.3
1981	350.0
1982	369.9
1983	396.2
1984	475.5
1985	544.9

(2) *National demand exclusive of ESECA prohibition order demand.* The estimated national demand, excluding any increased demand resulting from FEA action under the authority of Section 2(a) of ESECA, is as follows (FEA 1976 National Energy Outlook):

Year:	*Demand (million tons)*
1978	730
1979	764
1980	799
1981	842
1982	887
1983	935
1984	985
1985	1,040

(3) *National ESECA prohibition order demand.* The estimated potential demand for coal resulting from all Notices of Intention to issue Prohibition Orders to date and from all outstanding Prohibition Orders issued to date under Section 2(a) of ESECA is no more than the following ("Availability Report"):

Year:	*Demand (million tons)*
1978	11.0
1979	22.4
1980	32.5
1981	35.8
1982	57.4
1983	59.8
1984	59.8

(c) *State or local laws.* FEA has found no state or local laws or policies limiting the extraction or utilization of coal that would adversely affect these production figures, and none have been brought to FEA's attention.

(d) *Conclusion.* Potential coal demand from this MFBI and from all other MFBI's which are currently under consideration to receive Notices of Intention to issue Construction Orders under authority of Section 2(c) of ESECA is not included in the total national demand stated in paragraph 1.(b)(2), above. Coal demand from such MFBI's is also not calculated in currently projected ESECA generated demand since it is infeasible to anticipate specific quality characteristics for the coal that will be required by these MFBI's so far in advance of their actual construction.

As noted previously, plans for new coal production beyond 1980 are not yet fully developed because few coal producers have firm expansion plans that extend that far into the future. The projection for national coal production potential in 1985 cited in paragraph 2.(a), above, tends to underestimate actual production potential.

FEA has considered these facts and the fact that the potential annual demand for coal will increase once this MFBI and others become operational.

FEA expects, however, (based on an analysis of the "BOM Survey", the Coal Mine Expansion Study, the FEA 1976 National Energy Outlook, and the "Availability Report", cited above) that national coal production potential will substantially exceed the total national demand for coal in amounts sufficient in any year to meet the estimated potential additional demand for coal if all MFBI's currently under consideration were to receive Construction Orders under Section 2(c) of ESECA. Within the terms of ESECA, FEA has been unable to determine that coal is not expected to be available for this MFBI once it becomes operational. The best available evidence suggests that coal production potential will, in fact, considerably exceed all demand for the years pertinent to this proposed order.

The coal for this MFBI will probably be bought from producers according to regional supply/demand relationships related to the MFBI's location. FEA observes, however, that the MFBI could purchase coal in other markets as such production becomes available. (The Feasibility of Considering Expanded Use of Western Coal by Midwestern and Eastern Utilities in the Period 1978 and Beyond, School of Engineering, University of Pennsylvania, November 7, 1975.)

(e) *Coal transportation.* FEA has considered the availability of national coal transportation facilities. Generally, FEA considers construction lead times pertinent to MFBI's in the early-planning process to be sufficient to allow owners to secure appropriate coal transportation and coal transportation facilities prior to becoming operational.

II. *Factors which ESECA requires FEA to consider.*—A. *The existence and effects of any contractual commitment for the construction of the MFBI.* FEA has considered the existence and effects of any contractual commitment for the construction of the MFBI which the owner has reported to FEA in a Schedule of Plan Change Costs attachment to a Form FEA C–607–S–0 Schedule A–3, or otherwise, FEA has considered the additional costs which would be incurred in connection with existing contractual commitments should FEA require that the MFBI be designed and constructed to be capable of using coal as its primary energy source. Accordingly, FEA has included these costs in its consideration of the capability of the owner to recover any increase in capital investment required as a result of a Construction Order.

B. *The capability of the owner to recover any increase in projected capital investment required as a result of a construction order.* FEA has considered, in the manner described below, the capability of the owner to raise and to recover the increased capital investment expected to result from the issuance of a Construction Order.

1. *Increased capital investment required as a result of a construction order.* FEA has evaluated the additional capital investment costs required in order to design and construct the MFBI to be capable of burning coal as its primary energy source. This calculation is based on existing FEA information and analysis, as well as information filed with FEA by the owner concerning the cost of equipment and facilities that would have to be acquired. Approximate costs to comply with applicable environmental protection requirements have also been considered, including the cost of compliance with the air pollution control requirements of the Clean Air Act.

2. *Capability of the owner to raise the increased capital investment.* This analysis is based upon an evaluation of the owner's current financial position as reported in the Dun and Bradstreet Reference Book, (March 1977). Where necessary, FEA has performed an independent analysis of the owner's financial capability. In those cases in which an independent analysis of the owner's ability to recover the additional capital investment was performed, FEA related the additional capital investment costs discussed in paragraph B.1., above, and the plan change costs discussed in paragraph II.A., above, to the owner's net property and plant assets, the owner's reported recent construction expenditures and the owner's equity.

In considering the owner's ability to recover the increased capital investment costs, FEA has compared these increased costs, the demonstrated ability of the owner to raise the additional capital, any loss of revenue resulting from a delay, if any, in the commencement of operations of the MFBI resulting from a Construction Order, the owner's historical profit profile, and a presumed useful life of the MFBI after construction of 40 years.

In light of such considerations, FEA presumes that the owner's capability to recover any increase in capital is confirmed since the owner can both raise the necessary additional capital for construction with coal burning capability and has historically shown a profit profile.

APPENDIX—PROPOSED FINDINGS AND RATIONALE FOR NOTICE OF INTENTION TO ISSUE A CONSTRUCTION ORDER

ESECA and the FEA regulations require FEA to make certain findings and determinations and to consider certain factors before issuing a Construction Order to a Major Fuel Burning Installation (MFBI). FEA's proposed findings, as well as its proposed conclusions with respect to the factors FEA has considered, are set out below with respect to the MFBI's named below. Supporting rationale and conclusions are also set forth.

Docket No.	Owner	Installation	Unit	Location
OCU-6650-5-1 OCU-6650-5-2	Shell Oil Co.	Mobile Chemical plant	EPP-MOP-BLR-1 EPP-MOP-BLR-2	Mobile, Ala.

These findings, determinations and considerations, which are now proposed by FEA, are based on the information that has been provided to and developed by FEA prior to the issuance of this Notice of Intention (NOI) to issue a Construction Order.

Shell Oil Company shall be referred to as the "owner". Mobile Chemical Plant EPP-MOP-BLR-1 and EPP-MOP-BLR-2 shall be referred to as the "MFBI's".

I. *Proposed findings.*—A. *The MFBI's are in the early planning process.* Based on an analysis of the information submitted to FEA by the owner on Form FEA C-607-S-0 and information provided by the owner in response to subsequent inquiry to assure the continued applicability and currency of such information, including, as appropriate, an on-site inspection visit, FEA proposes to find that the MFBI's are in the early planning process. This proposed finding is based on the facts, assumptions and reasoning referenced below:

1. Schedule A-2 of Form FEA C-607-S-0 submitted by the owner shows that the preliminary feasibility study was completed.

2. Information supplied by the owner or otherwise acquired by FEA indicates that the early planning process for these MFBI's has not terminated.

3. Schedule A-2 of Form FEA C-607-S-0 submitted by the owner shows that the MFBI's meet the minimum design firing rate requirement.

B. *Within the terms of ESECA, FEA has been unable to determine that an adequate and reliable supply of coal is not expected to be available.* This proposed determination is based upon the facts, interpretations and assumptions stated below:

1. *Coal availability.* (a) *National coal reserves.* United States coal reserves are more than sufficient to supply national needs for the future. United States Department of the Interior, Bureau of Mines (BOM) data show a demonstrated coal reserve base of over 400 billion tons, over half of which is currently technically and economically recoverable (Demonstrated Coal Reserve Base of the United States, by Sulfur Category, on January 1, 1974, Bureau of Mines (May 1975) [hereafter "BOM Survey"]). Within these recoverable reserves approximately 200 billion tons contain 1 percent or less sulfur by weight. To determine when certain quantities of these reserves are expected to be available, FEA has examined several studies referenced herein, which together provide the best current evidence as to coal availability.

(b) *National coal production and demand.* The comparison, stated below, of estimated national coal production, national coal demand, and the total tonnage of uncommitted planned coal production (derived from responses to a survey of coal producing companies) shows that there should be sufficient production of coal to meet the total national demand through 1980. Beyond 1980, plans for new production are not yet fully developed because few coal producers have firm expansion plans that extend that far into the future; however, the projected total planned national coal production for 1985 already meets over 99 percent of the total U.S. demand expected in 1985. With time, more potential mine developments will become firm plans, thus increasing the planned production.

(1) *National coal production.* It is conservatively estimated that it will be practicable to produce coal nationally in at least the following quantities:

Year:	*Production potential (million tons)*
1977	732.3
1978	791.6
1979	851.4
1980	911.7
1981	960.0
1982	994.3
1983	1,017.4
1984	1,028.7
1985	1,039.6

The figures shown above are derived from FEA's *Coal Mine Expansion Study* (May 1976). This study demonstrates that most coal producers did not have firm or accurate plans for new capacity additions beyond 1980. The 1985 projection, therefore, tends to underestimate actual production potential.

An FEA study, *Coal Availability Report*, April 1977, (hereafter "Availability Report"), indicates current plans for nationwide production of uncommitted coal as follows:

Year:	*Production (million tons)*
1978	124.3
1979	243.1
1980	293.3
1981	350.0
1982	369.9
1983	396.2
1984	475.5
1985	544.9

(2) *National demand exclusive of ESECA prohibition order demand.* The estimated national demand, excluding any increased demand resulting from FEA action under the authority of Section 2(a) of ESECA, is as follows (*FEA 1976 National Energy Outlook*):

Year:	*Demand (million tons)*
1978	730
1979	764
1980	799
1981	842
1982	887
1983	935
1984	985
1985	1,040

(3) *National ESECA prohibition order demand.* The estimated potential demand for coal resulting from all Notices of Intention to issue Prohibition Orders to date and from all outstanding Prohibition Orders issued to date under Section 2(a) of ESECA is no more than the following ("Availability Report"):

Year:	*Demand (million tons)*
1978	11.0
1979	22.4
1980	32.5
1981	35.8
1982	57.4
1983	59.8
1984	59.8

(c) *State or local laws.* FEA has found no state or local laws or policies limiting the extraction or utilization of coal that would adversely affect these production figures, and none have been brought to FEA's attention.

(d) *Conclusion.* Potential coal demand from these MFBI's and from all other MFBI's which are currently under consideration to receive Notices of Intention to issue Construction Orders under authority of Section 2(c) of ESECA is not included in the total national demand stated in paragraph 1.(b)(2), above. Coal demand from such MFBI's is also not calculated in currently projected ESECA generated demand since it is infeasible to anticipate specific quality characteristics for the coal that will be required by these MFBI's so far in advance of their actual construction.

As noted previously, plans for new coal production beyond 1980 are not yet fully developed because few coal producers have firm expansion plans that extend that far into the future. The projection for national coal production potential in 1985 cited in paragraph 2.(a), above, tends to underestimate actual production potential.

FEA has considered these facts and the fact that the potential annual demand for coal will increase once these MFBI's and others become operational.

FEA expects, however, (based on an analysis of the "BOM Survey", the *Coal Mine Expansion Study*, the *FEA 1976 National Energy Outlook*, and the *"Availability Report"*, cited above) that national coal production potential will substantially exceed the total national demand for coal in amounts sufficient in any year to meet the estimated potential additional demand for coal if all MFBI's currently under consideration were to receive Construction Orders under Section 2(c) of ESECA. Within the terms of ESECA, FEA has been unable to determine that coal is not expected to be available for these MFBI's once they become operational. The best available evidence suggests that coal production potential will, in fact, considerably exceed all demand for the years pertinent to this proposed order.

The coal for these MFBI's will probably be bought from producers according to regional supply/demand relationships related to the MFBI's location. FEA observes, however, that the MFBI's could purchase coal in other markets as such production becomes available. (*The Feasibility of Considering Expanded Use of Western Coal by Midwestern and Eastern Utilities in the Period 1978 and Beyond*, School of Engineering, University of Pennsylvania, November 7, 1975.)

(e) *Coal transportation.* FEA has considered the availability of national coal transportation facilities. Generally, FEA considers construction lead times pertinent to MFBI's in the early-planning process to be sufficient to allow owners to secure appropriate coal transportation and coal transportation facilities prior to becoming operational.

II. *Factors which ESECA requires FEA to consider.*

A. *The existence and effects of any contractual commitment for the construction*

of the MFBI's. FEA has considered the existence and effects of any contractual commitment for the construction of the MFBI's which the owner has reported to FEA in a Schedule of Plan Change Costs attachment to a Form FEA C–607–S–0 Schedule, A–3, or otherwise. FEA has considered the additional costs which would be incurred in connection with existing contractual commitments should FEA require that the MFBI's be designed and constructed to be capable of using coal as their primary energy source. Accordingly, FEA has included these costs in its consideration of the capability of the owner to recover any increase in capital investment required as a result of a Construction Order.

B. *The capability of the owner to recover any increase in projected capital investment required as a result of a construction order.* FEA has considered, in the manner described below, the capability of the owner to raise and to recover the increased capital investment expected to result from the issuance of a Construction Order.

1. *Increased capital investment required as a result of a construction order.* FEA has evaluated the additional capital investment costs required in order to design and construct the MFBI's to be capable of burning coal as their primary energy source. This calculation is based on existing FEA information and analysis, as well as information filed with FEA by the owner concerning the cost of equipment and facilities that would have to be acquired. Approximate costs to comply with applicable environmental protection requirements have also been considered, including the cost of compliance with the air pollution control requirements of the Clean Air Act.

2. *Capability of the owner to raise the increased capital investment.* This analysis is based upon an evaluation of the owner's current financial position as reported in the *Dun and Bradstreet Reference Book* (March 1977). Where necessary, FEA has performed an independent analysis of the owner's financial capability. In those cases in which an independent analysis of the owner's ability to recover the additional capital investment was performed, FEA related the additional capital investment costs discussed in paragraph B.1., above, and the plan change costs discussed in paragraph II.A., above, to the owner's net property and plant assets, the owner's reported recent construction expenditures and the owner's equity.

In considering the owner's ability to recover the increased capital investment costs, FEA has compared these increased costs, the demonstrated ability of the owner to raise the additional capital, any loss of revenue resulting from a delay, if any, in the commencement of operations of the MFBI's resulting from a Construction Order, the owner's historical profit profile, and a presumed useful life of the MFBI's after construction of 40 years.

In light of such considerations, FEA presumes that the owner's capability to recover any increase in capital is confirmed since the owner can both raise the necessary additional capital for construction with coal burning capability and has historically shown a profit profile.

Appendix—Proposed Findings and Rationale for Notice of Intention To Issue a Construction Order

ESECA and the FEA regulations require FEA to make certain findings and determinations and to consider certain factors before issuing a Construction Order to a Major Fuel Burning Installation (MFBI). FEA's proposed findings, as well as its proposed conclusions with respect to the factors FEA has considered, are set out below with respect to the MFBI named below. Supporting rationale and conclusions are also set forth.

Docket No.	Owner	Installation	Unit	Location
OCU–1300–1–1	Goodyear Tire and Rubber Co....	Goodyear Gadsden plant...	Boiler 1....	Gadsden, Ala.

These findings, determinations and considerations, which are now proposed by FEA, are based on the information that has been provided to and developed by FEA prior to the issuance of this Notice of Intention (NOI) to issue a Construction Order.

Goodyear Tire and Rubber Company be referred to as the "owner". Goodyear Gadsden Plant Boiler 1 shall be referred to as the "MFBI".

I. *Proposed findings.*

A. *The MFBI is in the early planning process.* Based on an analysis of the information submitted to FEA by the owner on Form FEA C–607–S–0 and information provided by the owner in response to subsequent inquiry to assure the continued applicability and currency of such information, including, as appropriate, an on-site inspection visit, FEA proposes to find that the MFBI is in the early planning process. The proposed finding is based on the facts, assumptions and reasoning referenced below:

1. Schedule A–2 of Form FEA C–607–S–0 submitted by the owner shows that the preliminary feasibility study was completed.

2. Information supplied by the owner or otherwise acquired by FEA indicates that the early planning process for this MFBI has not terminated.

3. Schedule A–2 of Form FEA C–607–S–0 submitted by the owner shows that the MFBI meets the minimum design firing rate requirement.

B. *Within the terms of ESECA, FEA has been unable to determine that an adequate and reliable supply of coal is not expected to be available.* This proposed determination is based upon the facts, interpretations and assumptions stated below:

1. *Coal availability.*— (a) *National coal reserves.* United States coal reserves are more than sufficient to supply national needs for the future. United States Department of the Interior, Bureau of Mines (BOM) data show a demonstrated coal reserve base of over 400 billion tons, over half of which is currently technically and economically recoverable (*Demonstrated Coal Reserve Base of the United States, by Sulfur Category, on January 1, 1974,* Bureau of Mines (May 1975) [hereafter "BOM Survey"]). Within these recoverable reserves approximately 200 billion tons contain 1% or less sulfur by weight. To determine when certain quantities of these reserves are expected to be available, FEA has examined several studies referenced herein, which together provide the best current evidence as to coal availability.

(b) *National coal production and demand.* The comparison, stated below, of estimated national coal production, national coal demand, and the total tonnage of uncommitted planned coal production (derived from responses to a survey of coal producing companies) shows that there should be sufficient production of coal to meet the total national demand through 1980. Beyond 1980, plans for new production are not yet fully developed because few coal producers have firm expansion plans that extend that far into the future; however, the projected total planned national coal production for 1985 already meets over 99% of the total U.S. demand expected in 1985. With time, more potential mine developments will become firm plans, thus increasing the planned production.

(1) *National coal production.* It is conservatively estimated that it will be practicable to produce coal nationally in at least the following quantities:

Year:	*Production potential (million tons)*
1977	732.3
1978	791.6
1979	851.4
1980	911.7
1981	960.0
1982	994.3
1983	1,017.4
1984	1,028.7
1985	1,029.6

The figures shown above are derived from FEA's Coal Mine Expansion Study (May 1976). This study demonstrates that most coal producers did not have firm or accurate plans for new capacity additions beyond 1980. The 1985 project therefore, tends to underestimate actual production potential.

An FEA study, Coal Availability Report, April 1977, (hereafter "Availability Report"), indicates current plans for nationwide production of uncommitted coal as follows:

Year:	*Production (million tons)*
1978	124.3
1979	243.1
1980	293.3
1981	350.0
1982	369.9
1983	396.2
1984	475.5
1985	544.9

(2) *National demand exclusive of ESECA prohibition order demand.* The estimated national demand, excluding any increased demand resulting from FEA action under the authority of Section 2(a) of ESECA, is as follows (FEA 1976 National Energy Outlook):

Year:	*Demand (million tons)*
1978	730
1979	764
1980	799
1981	842
1982	887
1983	935
1984	985
1985	1,040

(3) *National ESECA prohibition order demand.* The estimated potential demand for coal resulting from all Notices of Intention to issue Prohibition Orders to date and from all outstanding Prohibition Orders issued to date under Section 2(a) of ESECA is no more than the following ("availability Report"):

Year:	*Demand (million tons)*
1978	11.0
1979	22.4
1980	32.8
1981	35.8
1982	57.4
1983	59.8
1984	59.8

(c) *State or local laws.* FEA has found no state or local laws or policies limiting the extraction or utilization of coal that would adversely affect these production figures, and none have been brought to FEA's attention.

(d) *Conclusion.* Potential coal demand from this MFBI and from all other MFBI's which are currently under consideration to receive Notices of Intention to issue Construction Orders under authority of Section 2(c) of ESECA is not included in the total national demand stated in paragraph 1.(b)(2), above. Coal demand from such MFBI's is also not calculated in currently projected ESECA generated demand since it is infeasible to anticipate specific quality characteristics for the coal that will be required by these MFBI's so far in advance of their actual construction.

As noted previously, plans for new coal production beyond 1980 are not yet fully development because few coal producers have firm expansion plans that extend that far into the future. The projection for national coal production potential in 1985 cited in paragraph 2.(a), above, tends to underestimate actual production potential.

FEA has considered these facts and the fact that the potential annual demand for coal will increase once this MFBI and others become operational.

FEA expects, however, (based on a analysis of the "BOM Survey", the *Coal Mine Expansion Study*, the *FEA 1976 National Energy Outlook*, and the "Availability Report", cited above) that national coal production potential will substantially exceed the total national demand for coal in amounts sufficient in any year to meet the estimated potential additional demand for coal if all MFBI's currently under consideration were to receive Construction Orders under Section 2(c) of ESECA. Within the terms of ESECA, FEA has been unable to determine that coal is not expected to be available for this MFBI once it becomes operational. The best available evidence suggests that coal production potential will, in fact, considerably exceed all demand for the years pertinent to this proposed order.

The coal for this MFBI will probably be bought from producers according to regional supply/demand relationships related to the MFBI's location. FEA observes, however, that the MFBI could purchase coal in other markets as such production becomes available. (*The Feasibility of Considering Expanded Use of Western Coal by Midwestern and Eastern Utilities in the Period 1978 and Beyond*, School of Engineering, University of Pennsylvania, November 7, 1975.)

(e) *Coal transportation.* FEA has considered the availability of national coal transportation facilities. Generally, FEA considers construction lead times pertinent to MFBI's in the early-planning process to be sufficient to allow owners to secure appropriate coal transportation and coal transportation facilities prior to becoming operational.

II. *Factors which ESECA requires FEA to consider.*

A. *The existence and effects of any contractual commitment for the construction of the MFBI.* FEA has considered the existence and effects of any contractual commitment for the construction of the MFBI which the owner has reported to FEA in a Schedule of Plan Change Costs attachment to a Form FEA C–607–S–0 Schedule A–3, or otherwise. FEA has considered the additional costs which would be incurred in connection with existing contractual commitments should FEA require that the MFBI be designed and constructed to be capable of using coal as its primary energy source. Accordingly, FEA has included these costs in its consideration of the capability of the owner to recover any increase in capital investment required as a result of a Construction Order.

B. *The capability of the owner to recover any increase in projected capital investment required as a result of a construction order.* FEA has considered, in the manner described below, the capability of the owner to raise and to recover the increased capital investment expected to result from the issuance of a Construction Order.

1. *Increased capital investment required as a result of a construction order.* FEA has evaluated the additional capital investment costs required in order to design and construct the MFBI to be capable of burning coal as its primary energy source. This calculation is based on existing FEA information and analysis, as well as information filed with FEA by the owner concerning the cost of equipment and facilities that would have to be acquired. Approximate costs to comply with applicable environmental protection requirements have also been considered, including the cost of compliance with the air pollution control requirements of the Clean Air Act.

2. *Capability of the owner to raise the increased capital investment.* This analysis is based upon an evaluation of the owner's current financial position as reported in the *Dun and Bradstreet Reference Book*, (March 1977). Where necessary, FEA has performed an independent analysis of the owner's financial capability. In those cases in which an independent analysis of the owner's ability to recover the additional capital investment was performed, FEA related the additional capital investment costs discussed in paragraph B.1., above, and the plan change costs discussed in paragraph II.A., above, to the owner's net property and plant assets, the owner's reported recent construction expenditures and the owner's equity.

In considering the owner's ability to recover the increased capital investment costs, FEA has compared these increased costs, the demonstrated ability of the owner to raise the additional capital, any loss of revenue resulting from a delay, if any, in the commencement of operations of the MFBI resulting from a Construction Order, the owner's historical profit profile, and a presumed useful life of the MFBI after construction of 40 years.

In light of such considerations, FEA presumes that the owner's capability to recover any increase in capital is confirmed since the owner can both raise the necessary additional capital for construction with coal burning capability and has historically shown a profit profile.

Appendix—Proposed Findings and Rationale for Notice of Intention To Issue A Construction Order

ESECA and the FEA regulations require FEA to make certain findings and determinations and to consider certain factors before issuing a Construction Order to a Major Fuel Burning Installation (MFBI). FEA's proposed findings, as well as its proposed conclusions with respect to the factors FEA has considered, are set out below with respect to the MFBI named below. Supporting rationale and conclusions are also set forth.

Docket No.	Owner	Installation	Unit	Location
OCU–7060–1–1	J. P. Stevens and Co., Inc.	Delta 3	6	Wallace, S.C.

These findings, determinations and considerations, which are now proposed by FEA, are based on the information that has been provided to and developed by FEA prior to the issuance of this Notice of Intention (NOI) to issue a Construction Order.

J. P. Stevens and Company, Incorporated shall be referred to as the "owner". Delta 3, Unit 6 shall be referred to as the "MFBI".

I. *Proposed findings.*—A. *The MFBI is in the early planning process.* Based on an analysis of the information submitted to FEA by the owner on Form FEA C–607–S–0 and information provided by the owner in response to subsequent inquiry to assure the continued applicability and currency of such information, including, as appropriate, an on-site inspection visit, FEA proposes to find that the MFBI is in the early planning process. This proposed finding is based on the facts, assumptions and reasoning referenced below:

1. Schedule A–2 of Form FEA C–607–S–0 submitted by the owner shows that the preliminary feasibility study was completed.

2. Information supplied by the owner or otherwise acquired by FEA indicates that the early planning process for this MFBI has not terminated.

3. Schedule A–2 of Form FEA C–607–S–0 submitted by the owner shows that the MFBI meets the minimum design firing rate requirement.

B. *Within the terms of ESECA, FEA has been unable to determine that an adequate and reliable supply of coal is not expected to be available.* This proposed determination is based upon the facts, interpretations and assumptions stated below:

1. *Coal availability.*—(a) *National coal reserves.* United States coal reserves are more than sufficient to supply national needs for the future. United States Department of the Interior, Bureau of Mines (BOM) data show a demonstrated coal reserve base of over 400 billion tons, over half of which is currently technically and economically recoverable (Demonstrated Coal Reserve Base of the United States, by Sulfur Category, on January 1, 1974, Bureau of Mines (May 1975) (hereafter "BOM Survey")). Within these recoverable reserves approximately 200 billion tons contain 1% or less sulfur by weight. To determine when certain quantities of these reserves are expected to be available, FEA has examined several studies referenced herein, which together provide the best current evidence as to coal availability.

(b) *National coal production and demand.* The comparison, stated below, of estimated national coal production, national coal demand, and the total tonnage of uncommitted planned coal production (derived from responses to a survey of coal producing companies) shows that there there should be sufficient production of coal to meet the total national demand through 1980. Beyond 1980, plans for new production are not yet fully developed because few coal producers have firm expansion plans that extend that far into the future; however, the projected total planned national coal production for 1985 already meets over 99% of the total U.S. demand expected in 1985. With time, more potential mine developments will become firm plans, thus increasing the planned production.

(1) *National coal production.* It is conservatively estimated that it will be practicable to produce coal nationally in at least the following quantities:

Year:	*Production potential (million tons)*
1977	732.3
1978	791.6
1979	851.4
1980	911.7
1981	960.0
1982	994.3
1983	1,017.4
1984	1,028.7
1985	1,029.6

The figures shown above are derived from FEA's Coal Mine Expansion Study (May 1976). This study demonstrates that most coal producers did not have firm or accurate plans for new capacity additions beyond 1980. The 1985 projection, therefore, tends to underestimate actual production potential.

An FEA study, Coal Availability Report, April 1977, (hereafter "Availability Report"), indicates current plans for nationwide production of uncommitted coal as follows:

Year:	*Production (million tons)*
1978	124.3
1979	243.1
1980	293.3
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1982	369.9
1983	396.2
1984	475.5
1985	544.9

(2) *National demand exclusive of ESECA prohibition order demand.* The estimated national demand, excluding any increased demand resulting from FEA action under the authority of Section 2(a) of ESECA, is as follows (FEA 1976 National Energy Outlook):

Year:	*Demand (million tons)*
1978	730
1979	764
1980	799
1981	842
1982	887
1983	935
1984	985
1985	1,040

(3) *National ESECA prohibition order demand.* The estimated potential demand for coal resulting from all Notices of Intention to issue Prohibition Orders to date and from all outstanding Prohibition Orders issued to date under Section 2(a) of ESECA is no more than the following ("Availability Report"):

Year:	*Demand (million tons)*
1978	11.0
1979	22.4
1980	32.5
1981	35.8
1982	57.4
1983	59.8
1984	59.8

(c) *State or local laws.* FEA has found no state or local laws or policies limiting the extraction or utilization of coal that would adversely affect these production figures, and none have been brought to FEA's attention.

(d) *Conclusion.* Potential coal demand from this MFBI and from all other MFBI's which are currently under consideration to receive Notices of Intention to issue Construction Orders under authority of Section 2(c) of ESECA is not included in the total national demand stated in paragraph 1.(b)(2), above. Coal demand from such MFBI's is also not calculated in currently projected ESECA generated demand since it is infeasible to anticipate specific quality characteristics for the coal that will be required by these MFBI's so far in advance of their actual construction.

As noted previously, plans for new coal production beyond 1980 are not yet fully developed because few coal producers have firm expansion plans that extend that far into the future. The projection for national coal production potential in 1985 cited in paragraph 2.(a), above tends to under estimate actual production potential.

FEA has considered these facts and the fact that the potential annual demand for coal will increase once this MFBI and others become operational. FEA expects, however, (based on an analysis of the "BOM Survey", the Coal Mine Expansion Study, the FEA 1976 National Energy Outlook, and the "Availability Report", cited above) that national coal production potential will substantially exceed the total national demand for coal in amounts sufficient in any year to meet the estimated potential additional demand for coal if all MFBI's currently under consideration were to receive Construction Orders under Section 2(c) of ESECA. Within the terms of ESECA, FEA has been unable to determine that coal is not expected to be available for this MFBI once it becomes operational. The best available evidence suggests that coal production potential will, in fact, considerably exceed all demand for the years pertinent to this proposed order.

The coal for this MFBI will probably be bought from producers according to regional supply/demand relationships related to the MFBI's location. FEA observes, however, that the MFBI could purchase coal in other markets as such production becomes available. (The Feasibility of Considering Expanded Use of Western Coal by Midwestern and Eastern Utilities in the Period 1978 and Beyond, School of Engineering, University of Pennsylvania, November 7, 1975.)

(e) *Coal transportation.* FEA has considered the availability of national coal transportation facilities. Generally, FEA considers construction lead times pertinent to MFBI's in the early-planning process to be sufficient to allow owners to secure appropriate coal transportation and coal transportation facilities prior to becoming operational.

II. *Factors which ESECA requires FEA to consider.*—A. *The existence and effects of any contractual commitment for the construction of the MFBI.* FEA has considered the existence and effects of any contractual commitment for the construction of the MFBI which the owner has reported to FEA in a Schedule of Plan Change Costs attachment to a Form FEA C–607–S–0 Schedule A–3, or otherwise. FEA has considered the additional costs which would be incurred in connection with existing contractual commitments should FEA require that the MFBI be designed and constructed to be capable of using coal as its primary energy source. Accordingly, FEA has included these costs in its consideration of the capability of the owner to recover any increase in capital investment required as a resut of a Construction Order.

B. *The capability of the owner to recover any increase in projected capital investment required as a result of a construction order.* FEA has considered, in the manner described below, the capability of the owner to raise and to recover the increased capital investment expected to result from the issuance of a Construction Order.

1. *Increased capital investment required as a result of a construction order.* FEA has evaluated the additional capital investment costs required in order to design and construct the MFBI to be capable of burning coal as its primary energy source. This calculation is based on existing FEA information and analysis, as well as information filed with FEA by the owner concerning the cost of equipment and facilities that would have to be acquired. Approximate costs to comply with applicable environmental protection requirements have also been considered, including the cost of compliance with the air pollution control requirements of the Clean Air Act.

2. *Capability of the owner to raise the increased capital investment.* This analysis is based upon an evaluation of the owner's current financial position as reported in the *Dun and Bradstreet Reference Book,* (March 1977). Where necessary, FEA has performed an independent analysis of the owner's financial capability. In those cases in which an independent analysis of the owner's ability to recover the additional capital investment was performed, FEA related the additional capital investment costs discussed in paragraph B.1., above, and the plan change costs discussed in paragraph II.A., above, to the owner's net property and plant assets, the owner's reported recent construction expenditures and the owner's equity.

In considering the owner's ability to recover the increased capital investment costs, FEA has compared these increased costs, the demonstrated ability of the owner to raise the additional capital, any loss of revenue resulting from a delay, if any, in the commencement of operations of the MFBI resulting from a Construction Order, the owner's historical profit profile, and a presumed useful life of the MFBI after construction of 40 years.

In light of such considerations, FEA presumes that the owner's capability to recover any increase in capital is confirmed since the owner can both raise the necessary additional capital for construction with coal burning capability and has historically shown a profit profile.

Appendix—Proposed Findings and Rationale for Notice of Intention To Issue A Construction Order

ESECA and the FEA regulations require FEA to make certain findings and determinations and to consider certain factors before issuing a Construction Order to a Major Fuel Burning Installation (MFBI). FEA's proposed findings, as well as its proposed conclusions with respect to the factors FEA has considered, are set out below with respect to the MFBI named below. Supporting rationale and conclusions are also set forth.

Docket No.	Owner	Installation	Unit	Location
OCU–4210–1–1	Kimberly-Clark Corp.	Memphis mill	Boiler 5	Memphis, Tenn.

These findings, determinations and considerations, which are now proposed by FEA, are based on the information that has been provided to and developed by FEA prior to the issuance of this Notice of Intention (NOI) to issue a Construction Order.

Kimberly-Clark Corporation shall be referred to as the "owner". Memphis Mill Boiler 5 shall be referred to as the "MFBI".

I. *Proposed findings.*

A. *The MFBI is in the early planning process.* Based on an analysis of the information submitted to FEA by the owner on Form FEA C–607–S–0 and information provided by the owner in response to subsequent inquiry to assure the continued applicability and currency of such information, including, as appropriate, an on-site inspection visit, FEA proposes to find that the MFBI is in the early planning process. This proposed finding is based on the facts, assumptions and reasoning referenced below:

1. Schedule A–2 of Form FEA C–607–S–0 submitted by the owner shows that the preliminary feasibility study was completed.

2. Information supplied by the owner or otherwise acquired by FEA indicates that the

early planning process for this MFBI has not terminated.

3. Schedule A–2 of Form FEA C–607–S–0 submitted by the owner shows that the MFBI meets the minimum design firing rate requirement.

B. *Within the terms of ESECA, FEA has been unable to determine that an adequate and reliable supply of coal is not expected to be available.* This proposed determination is based upon the facts, interpretations and assumptions stated below:

1. *Coal availability.*—(a) *National coal reserves.* United States coal reserves are more than sufficient to supply national needs for the future. United States Department of the Interior, Bureau of Mines (BOM) data shows a demonstrated coal reserve base of over 400 billion tons, over half of which is currently technically and economically recoverable (Demonstrated Coal Reserve Base of the United States, by Sulfur Category, on January 1, 1974, Bureau of Mines (May 1975) [hereafter "BOM Survey"]). Within these recoverable reserves approximately 200 billion tons contain 1 percent or less sulfur by weight. To determine when certain quantities of these reserves are expected to be available, FEA has examined several studies referenced herein, with together provide the best current evidence as to coal availability.

(b) *National coal production and demand.* The comparison, stated below, of estimated national coal production, national coal demand, and the total tonnage of uncommitted planned coal production (derived from responses to a survey of coal producing companies) shows that there should be sufficient production of coal to meet the total national demand through 1980. Beyond 1980, plans for new production are not yet fully developed because few coal producers have firm expansion plans that extend that far into the future; however, the projected total planned national coal production for 1985 already meets over 99 percent of the total U.S. demand expected in 1985. With time, more potential mine developments will become firm plans, thus increasing the planned production.

(1) *National coal production.* It is conservatively estimated that it will be practicable to produce coal nationally in at least the following quantities:

Year:	*Production potential (million tons)*
1977	732.3
1978	791.6
1979	851.4
1980	911.7
1981	960.0
1982	994.3
1983	1,017.4
1984	1,028.7
1985	1,029.6

The figures shown above are derived from FEA's Coal Mine Expansion Study (May 1976). This study demonstrates that most coal producers did not have firm or accurate plans for new capacity additions beyond 1980. The 1985 projection, therefore, tends to underestimate actual production potential.

An FEA study, Coal Availability Report, April 1977, (hereafter "Availability Report"), indicates current plans for nationwide production of uncommitted coal as follows:

Year:	*Production (million tons)*
1978	134.3
1979	243.1
1980	293.3
1981	350.0
1982	369.9
1983	396.2
1984	475.5
1985	544.9

(2) *National demand exclusive of ESECA prohibition order demand.* The estimated national demand, excluding any increased demand resulting from FEA action under the authority of Section 2(a) of ESECA, is as follows (FEA 1976 National Energy Outlook):

Year:	*Demand (million tons)*
1978	730
1979	764
1980	799
1981	842
1982	887
1983	935
1984	985
1985	1,040

(3) *National ESECA prohibition order demand.* The estimated potential demand for coal resulting from all Notices of Intention to issue Prohibition Orders to date and from all outstanding Prohibition Orders issued to date under Section 2(a) of ESECA is no more than the following ("Availability Report"):

Year:	*Demand (million tons)*
1978	11.0
1979	22.4
1980	32.5
1981	35.8
1982	57.4
1983	59.8
1984	59.8

(c) *State or local laws.* FEA has found no state or local laws or policies limiting the extraction or utilization of coal that would adversely affect these production figures, and none have been brought to FEA's attention.

(d) *Conclusion.* Potential coal demand from this MFBI and from all other MFBI's which are currently under consideration to receive Notices of Intention to issue Construction Orders under authority of Section 2(c) of ESECA is not included in the total national demand stated in paragraph 1.(b)(2), above. Coal demand from such MFBI's is also not calculated in currently projected ESECA generated demand since it is infeasible to anticipate specific quality characteristics for the coal that will be required by these MFBI's so far in advance of their actual construction.

As noted previously, plans for new coal production beyond 1980 are not yet fully developed because few coal producers have firm expansion plans that extend that far into the future. The projection for national coal prdouction potential in 1985 cited in paragraph 2.(a), above, tends to underestimate actual production potential.

FEA has considered these facts and the fact that the potential annual demand for coal will increase once this MFBI and others become operational.

FEA expects, however, (based on an analysis of the "BOM Survey", the *Coal Mine Expansion Study*, the *FEA 1976 National Energy Outlook*, and the "Availability Report", cited above) that national coal production potential will substantially exceed the total national demand for coal in amounts sufficient in any year to meet the estimated potential additional demand for coal if all MFBI's currently under consideration were to receive Construction Orders under Section 2(c) of ESECA. Within the terms of ESECA, FEA has been unable to determine that coal is not expected to be available for this MFBI once it becomes operational. The best available evidence suggests that coal production potential will, in fact, considerably exceed all demand for the years pertinent to this proposed order.

The coal for this MFBI will probably be bought from producers according to regional supply/demand relationships related to the MFBI's location. FEA observes, however, that the MFBI could purchase coal in other markets as such production becomes available. (*The Feasibility of Considering Expended Use of Western Coal by Midwestern and Eastern Utilities in the Period 1978 and Beyond*, School of Engineering, University of Pennsylvania, November 7, 1975.)

(e) *Coal transportation.* FEA has considered the availability of national coal transportation facilities. Generally, FEA considers construction lead times pertinent to MFBI's in the early-planning process to be sufficient to allow owners to secure appropriate coal transportation and coal transportation facilities prior to becoming operational.

II. *Factors which ESECA requires FEA to consider.*

A. *The existence and effects of any contractual commitment for the construction of the MFBI.* FEA has considered the existence and effects of any contractual commitment for the construction of the MFBI which the owner has reported to FEA in a Schedule of Plan Change Costs attachment to a Form FEA C–607–S–0 Schedule A–3, or otherwise. FEA has considered the additional costs which would be incurred in connection with existing contractual commitments should FEA require that the MFBI be designed and constructed to be capable of using coal as its primary energy source. Accordingly, FEA has included these costs in its consideration of the capability of the owner to recover any increase in capital investment required as a result of a Construction Order.

B. *The capability of the owner to recover any increase in projected capital investment required as a result of a construction order.* FEA has considered, in the manner described below, the capability of the owner to raise and to recover the increased capital investment expected to result from the issuance of a Construction Order.

1. *Increased capital investment required as a result of a construction order.* FEA has evaluated the additional capital investment costs required in order to design and construct the MFBI to be capable of burning coal as its primary energy source. This calculation is based on existing FEA information and analysis, as well as information filed with FEA by the owner concerning the cost of equipment and facilities that would have to be acquired. Approximate costs to comply with applicable environmental protection requirements have also been considered, including the cost of compliance with the air pollution control requirements of the Clean Air Act.

2. *Capability of the owner to raise the increased capital investment.* This analysis is based upon an evaluation of the owner's current financial position as reported in the *Dun and Bradstreet Reference Book*, (March 1977). Where necessary, FEA has performed an independent analysis of the owner's financial capability. In those cases in which an independent analysis of the owner's ability to recover the additional capital investment was performed, FEA related the additional capital investment costs discussed in paragraph B.1., above, and the plan change costs discussed in paragraph II.A., above, to the owner's net property and plant assets, the owner's reported recent construction expenditures and the owner's equity.

In considering the owner's ability to recover the increased capital investment costs, FEA has compared these increased costs, the demonstrated ability of the owner to raise the additional capital, any loss of revenue resulting from a delay, if any, in the commencement of operations of the MFBI resulting from a Construction Order, the own-

er's historical profit profile, and a presumed useful life of the MFBI after construction of 40 years.

In light of such considerations, FEA presumes that the owner's capability to recover any increase in capital is confirmed since the owner can both raise the necessary additional capital for construction with coal burning capability and has historically shown a profit profile.

APPENDIX—PROPOSED FINDINGS AND RATIONALE FOR NOTICE OF INTENTION TO ISSUE A CONSTRUCTION ORDER

ESECA and the FEA regulations require FEA to make certain findings and determinations and to consider certain factors before issuing a Construction Order to a Major Fuel Burning Installation (MFBI). FEA's proposed findings, as well as its proposed conclusions with respect to the factors FEA has considered, are set out below with respect to the MFBI's named below. Supporting rationale and conclusions are also set forth.

Docket No.	Owner	Installation	Unit	Location
OCU-4920-1-1 OCU-4920-1-2 OCU-4920-1-3	Phillip Morris, Inc./Miller Brewing Co.	Eden plant	Combustion engineering. Riley 1 Riley 2	Eden, N.C.

These findings, determinations and considerations, which are now proposed by FEA, are based on the information that has been provided to and developed by FEA prior to the issuance of this Notice of Intention (NOI) to issue a Construction Order.

Phillip Morris, Incorporated/Miller Brewing Company shall be referred to as the "owner". Eden Plant Combustion Engineering, Riley 1 and Riley 2 shall be referred to as the "MFBI's".

I. *Proposed findings.*—A. *The MFBI's are in the early planning process.* Based on an analysis of the information submitted to FEA by the owner on Form FEA C–607–S–0 and information provided by the owner in response to subsequent inquiry to assure the continued applicability and currency of such information, including, as appropriate, an on-site inspection visit, FEA proposes to find that the MFBI's are in the early planning process. This proposed finding is based on the facts, assumptions and reasoning referenced below:

1. Schedule A–2 of Form FEA C–607–S–0 submitted by the owner shows that the preliminary feasibility study was completed.

2. Information supplied by the owner or otherwise acquired by FEA indicates that the early planning process for these MFBI's has not terminated.

3. Schedule A–2 of Form FEA C–607–S–0 submitted by the owner shows that the MFBI's meet the minimum design firing rate requirement.

B. *Within the terms of ESECA, FEA has been unable to determine that an adequate and reliable supply of coal is not expected to be available.* This proposed determination is based upon the facts, interpretations and assumptions stated below:

1. *Coal availability.* (a) *National coal reserves.* United States coal reserves are more than sufficient to supply national needs for the future. United States Department of the Interior, Bureau of Mines (BOM) data show a demonstrated coal reserve base of over 400 billion tons, over half of which is currently technically and economically recoverable (Demonstrated Coal Reserve Base of the United States, by Sulfur Category, on January 1, 1974, Bureau of Mines (May 1975) [hereafter "BOM Survey"]). Within these recoverable reserves approximately 200 billion tons contain 1 percent or less sulfur by weight. To determine when certain quantities of these reserves are expected to be available, FEA has examined several studies referenced herein, which together provide the best current evidence as to coal availability.

(b) *National coal production and demand.* The comparison, stated below, of estimated national coal production, national coal demand, and the total tonnage of uncommitted planned coal production (derived from responses to a survey of coal producing companies) shows that there should be sufficient production of coal to meet the total national demand through 1980. Beyond 1980, plans for new production are not yet fully developed because few coal producers have firm expansion plans that extend that far into the future; however, the projected total planned national coal production for 1985 already meets over 99 percent of the total U.S. demand expected in 1985. With time, more potential mine developments will become firm plans, thus increasing the planned production.

(1) *National coal production.* It is conservatively estimated that it will be practicable to produce coal nationally in at least the following quantities:

Year:	*Production potential* (*million tons*)
1977	732.3
1978	791.6
1979	851.4
1980	911.7
1981	960.0
1982	994.3
1983	1,017.4
1984	1,028.7
1985	1,029.6

The figures shown above are derived from FEA's Coal Mine Expansion Study (May 1976). This study demonstrates that most coal producers did not have firm or accurate plans for new capacity additions beyond 1980. The 1985 projection, therefore, tends to underestimate actual production potential.

An FEA study, Coal Availability Report, April 1977 (hereafter "Availability Report"), indicates current plans for nationwide production of uncommitted coal as follows:

Year:	*Production* (*million tons*)
1978	124.3
1979	243.1
1980	293.3
1981	350.0
1982	369.9
1983	396.2
1984	475.5
1985	544.9

(2) *National demand exclusive of ESECA prohibition order demand.* The estimated national demand, excluding any increased demand resulting from FEA action under the authority of Section 2(a) of ESECA, is as follows (FEA 1976 National Energy Outlook):

Year:	*Demand* (*million tons*)
1978	780
1979	764
1980	799
1981	842
1982	887
1983	935
1984	985
1985	1,040

(3) *National ESECA prohibition order demand.* The estimated potential demand for coal resulting from all Notices of Intention to issue Prohibition Orders to date and from all outstanding Prohibition Orders issued to date under Section 2(a) of ESECA is no more than the following ("Availability Report"):

Year:	*Demand* (*million tons*)
1978	11.0
1979	22.4
1980	32.5
1981	35.8
1982	57.4
1983	59.8
1984	59.8

(c) *State or local laws.* FEA has found no state or local laws or policies limiting the extraction or utilization of coal that would adversely affect these production figures, and none have been brought to FEA's attention.

(d) *Conclusion.* Potential coal demand from these MFBI's and from all other MFBI's which are currently under consideration to receive Notices of Intention to issue Construction Orders under authority of Section 2(c) of ESECA is not included in the total national demand stated in paragraph 1.(b)(2), above. Coal demand from such MFBI's is also not calculated in currently projected ESECA generated demand since it is infeasible to anticipate specific quality characteristics for the coal that will be required by these MFBI's so far in advance of their actual construction.

As noted previously, plans for new coal production beyond 1980 are not yet fully developed because few coal producers have firm expansion plans that extend that far into the future. The projection for national coal production potential in 1985 cited in paragraph 2.(a), above tends to underestimate actual production potential.

FEA has considered these facts and the fact that the potential annual demand for coal will increase once these MFBI's and others become operational FEA expects, however, (based on an analysis of the "BOM Survey", the Coal Mine Expansion Study, the FEA 1976 National Energy Outlook, and the "Availability Report", cited above) that national coal production potential will substantially exceed the total national demand for coal in amounts sufficient in any year to meet the estimated potential additional demand for coal if all MFBI's currently under consideration were to receive Construction Orders under Section 2(c) of ESECA. Within the terms of ESECA, FEA has been unable to determine that coal is not expected to be available for these MFBI's once they become operational. The best available evidence suggests that coal production potential will, in fact, considerably exceed all demand for the years pertinent to this proposed order.

The coal for these MFBI's will probably be bought from producers according to regional supply/demand relationships related to the MFBI's location. FEA observes, however, that the MFBI's could purchase coal in other markets as such production becomes available. (The Feasibility of Considering Expanded Use of Western Coal by Midwest-

ern and Eastern Utilities in the Period 1978 and Beyond, School of Engineering University of Pennsylvania, November 7, 1975.)

(c) *Coal transportation.* FEA has considered the availability of national coal transportation facilities. Generally, FEA considers construction lead times pertinent to MFBI's in the early-planning process to be sufficient to allow owners to secure appropriate coal transportation and coal transportation facilities prior to becoming operational.

II. *Factors which ESECA requires FEA to consider.*—A. *The existence and effects of any contractual commitment for the construction of the MFBI's.* FEA has considered the existence and effects of any contractual commitment for the construction of the MFBI's which the owner has reported to FEA in a Schedule of Plan Change Costs attachment to a Form FEA C–607–S–0 Schedule A–3, or otherwise. FEA has considered the additional costs which would be incurred in connection with existing contractural commitments should FEA require that the MFBI's be designed and constructed to be capable of using coal as their primary energy source. Accordingly, FEA has included these costs in its consideration of the capability of the owner to recover any increase in capital investment required as a result of a Construction Order.

B. *The capability of the owner to recover any increase in projected capital investment required as a result of a construction order.* FEA has considered, in the manner described below, the capability of the owner to raise and to recover the increased capital investment expected to result from the issuance of a Construction Order.

1. *Increased capital investment required as a result of a construction order.* FEA has evaluated the additional capital investment costs required in order to design and construct the MFBI's to be capable of burning coal as their primary energy source. This calculation is based on existing FEA information and analysis, as well as information filed with FEA by the owner concerning the cost of equipment and facilities that would have to be acquired. Approximate costs to comply with applicable environmental protection requirements have also been considered, including the cost of compliance with the air pollution control requirements of the Clean Air Act.

2. *Capability of the owner to raise the increased capital investment.* This analysis is based upon an evaluation of the owner's current financial position as reported in the Dun and Bradstreet Reference Book, (March 1977). Where necessary, FEA has performed an independent analysis of the owner's financial capability. In those cases in which an independent analysis of the owner's ability to recover the additional capital investment was performed, FEA related the additional capital investment costs discussed in paragraph B.1., above, and the plan change costs discussed in paragraph II. A., above, to the owner's net property and plant assets, the owner's reported recent construction expenditures and the owner's equity.

In considering the owner's ability to recover the increased capital investment costs, FEA has compared these increased costs, the demonstrated ability of the owner to raise the additional capital, any loss of revenue resulting from a delay, if any, in the commencement of operations of the MFBI's resulting from a Construction Order, the owner's historical profit profile, and a presumed useful life of the MFBI's after construction of 40 years. In light of such considerations, FEA presumes that the owner's capability to recover any increase in capital is confirmed since the owner can both raise the necessary additional capital for construction with coal burning capability and has historically shown a profit profile.

Appendix—Proposed Findings and Rationale for Notice of Intention To Issue a Construction Order

ESECA and the FEA regulations require FEA to make certain findings and determinations and to consider certain factors before issuing a Construction Order to a Major Fuel Burning Installation (MFBI). FEA's proposed findings, as well as its proposed conclusions with respect to the factors FEA has considered, are set out below with respect to the MFBIs named below. Supporting rationale and conclusions are also set forth.

Docket No.	Owner	Installation	Unit	Location
OCU–3280–1–1	B. F. Goodrich Co./B. F. Goodrich Chemical Co.	Louisville plant	Boiler 7	Louisville, Ky.

These findings, determinations and considerations, which are now proposed by FEA, are based on the information that has been provided to and developed by FEA prior to the issuance of this Notice of Intention (NOI) to issue a Construction Order.

B. F. Goodrich Company/B. F. Goodrich Chemical Company shall be referred to as the "owner". Louisville Plant Boiler 7 shall be referred to as the "MFBI".

I. *Proposed findings.*

A. *The MFBI is in the early planning process.* Based on an analysis of the information submitted to FEA by the owner on Form FEA C–607–S–0 and information provided by the owner in response to subsequent inquiry to assure the continued applicability and currency of such information, including, as appropriate, an on-site inspection visit, FEA proposes to find that the MFBI is in the early planning process. This proposed finding is based on the facts, assumptions and reasoning referenced below:

1. Schedule A–2 of Form FEA C–607–S–0 submitted by the owner shows that the preliminary feasibility study was completed.

2. Information supplied by the owner or otherwise acquired by FEA indicates that the early planning process for this MFBI has not terminated.

3. Schedule A–2 of Form FEA C–607–S–0 submitted by the owner shows that the MFBI meets the minimum design firing rate requirement.

B. *Within the terms of ESECA, FEA has been unable to determine that an adequate and reliable supply of coal is not expected to be available.* This proposed determination is based upon the facts, interpretations and assumptions stated below:

1. *Coal availability.* (a) *National coal reserves.* United States coal reserves are more than sufficient to supply national needs for the future. United States Department of the Interior, Bureau of Mines (BOM) data show a demonstrated coal reserve base of over 400 billion tons, over half of which is currently technically and economically recoverable (Demonstrated Coal Reserve Base of the United States, by Sulfur Category, on January 1, 1974, Bureau of Mines (May 1975) [hereafter "BOM Survey"]). Within these recoverable reserves approximately 200 billion tons contain 1 percent or less sulfur by weight. To determine when certain quantities of these reserves are expected to be available, FEA has examined several studies referenced herein, which together provide the best current evidence as to coal availability.

(b) *National coal production and demand.* The comparison, stated below, of estimated national coal production, national coal demand, and the total tonnage of uncommitted planned coal production (derived from responses to a survey of coal producing companies) shows that there should be sufficient production of coal to meet the total national demand through 1980. Beyond 1980, plans for new production are not yet fully developed because few coal producers have firm expansion plans that extend that far into the future; however, the projected total planned national coal production for 1985 already meets over 99 percent of the total U.S. demand expected in 1985. With time, more potential mine developments will become firm plans, thus increasing the planned production. (1) *National coal production.* It is conservatively estimated that it will be practicable to produce coal nationally in at least the following quantities:

Year:	*Production potential (million tons)*
1977	732.3
1978	791.6
1979	851.4
1980	911.7
1981	960.0
1982	994.3
1983	1,017.4
1984	1,028.7
1985	1,029.6

The figures shown above are derived from FEA's Coal Mine Expansion Study (May 1976). This study demonstrates that most coal producers did not have firm or accurate plans for new capacity additions beyond 1980. The 1985 projection, therefore, tends to underestimate actual production potential.

An FEA study, Coal Availability Report, April 1977 (hereafter "Availability Report"), indicates current plans for nationwide production of uncommitted coal as follows:

Year:	*Production (million tons)*
1978	124.3
1979	243.1
1980	293.3
1981	350.0
1982	369.9
1983	396.2
1984	475.5
1985	544.9

(2) *National demand exclusive of ESECA prohibition order demand.* The estimated national demand, excluding any increased demand resulting from FEA action under the authority of Section 2(a) of ESECA, is as follows (FEA 1976 National Energy Outlook):

Year:	*Demand (million tons)*
1978	730
1979	764
1980	799
1981	842
1982	887
1983	935
1984	985
1985	1,040

(3) *National ESECA prohibition order demand.* The estimated potential demand for coal resulting from all Notices of Intention to issue Prohibition Orders to date and from all outstanding Prohibition Orders issued to date under Section 2(a) of ESECA is no more than the following ("Availability Report"):

Year:	Demand (million tons)
1978	11.0
1979	22.4
1980	32.5
1981	35.8
1982	57.4
1983	59.8
1984	59.8

(c) *State or local laws.* FEA has found no state or local laws or policies limiting the extraction or utilization of coal that would adversely affect these production figures, and none have been brought to FEA's attention.

(d) *Conclusion.* Potential coal demand from this MFBI and from all other MFBI's which are currently under consideration to receive Notices of Intention to issue Construction Orders under authority of Section 2(c) of ESECA is not included in the total national demand stated in paragraph 1.(b)(2), above. Coal demand from such MFBI's is also not calculated in currently projected ESECA generated demand since it is infeasible to anticipate specific quality characteristics for the coal that will be required by these MFBI's so far in advance of their actual construction.

As noted previously, plans for new coal production beyond 1980 are not yet fully developed because few coal producers have firm expansion plans that extend that far into the future. The projection for national coal production potential in 1985 cited in paragraph 2.(a), above, tends to underestimate actual production potential.

FEA has considered these facts and the fact that the potential annual demand for coal will increase once this MFBI and others become operational.

FEA expects, however, (based on an analysis of the "BOM Survey", the *Coal Mine Expansion Study*, the *FEA 1976 National Energy Outlook*, and the "Availability Report", cited above) that national coal production potential will substantially exceed the total national demand for coal in amounts sufficient in any year to meet the estimated potential additional demand for coal if all MFBI's currently under consideration were to receive Construction Orders under Section 2(c) of ESECA. Within the terms of ESECA, FEA has been unable to determine that coal is not expected to be available for this MFBI once it becomes operational. The best available evidence suggests that coal production potential will, in fact, considerably exceed all demand for the years pertinent to this proposed order.

The coal for this MFBI will probably be bought from producers according to regional supply/demand relationships related to the MFBI's location. FEA observes, however, that the MFBI could purchase coal in other markets as such production becomes available. (*The Feasibility of Considering Expanded Use of Western Coal by Midwestern and Eastern Utilities in the Period 1978 and Beyond*, School of Engineering, University of Pennsylvania, November 7, 1975.)

(e) *Coal transportation.* FEA has considered the availability of national coal transportation facilities. Generally, FEA considers construction lead times pertinent to MFBI's in the early-planning process to be sufficient to allow owners to secure appropriate coal transportation and coal transportation facilities prior to becoming operational.

II. *Factors which ESECA requires FEA to consider.* A. *The existence and effects of any contractual commitment for the construction of the MFBI.* FEA has considered the existence and effects of any contractual commitment for the construction of the MFBI which the owner has reported to FEA in a Schedule of Plan Change Costs attachment to a Form FEA C–607–S–0 Schedule A–3, or otherwise. FEA has considered the additional costs which would be incurred in connection with existing contractual commitments should FEA require that the MFBI be designed and constructed to be capable of using coal as its primary energy source. Accordingly, FEA has included these costs in its consideration of the capability of the owner to recover any increase in capital investment required as a result of a Construction Order.

B. *The capability of the owner to recover any increase in projected capital investment required as a result of a construction order.* FEA has considered, in the manner described below, the capability of the owner to raise and to recover the increased capital investment expected to result from the issuance of a Construction Order.

1. *Increased capital investment required as a result of a construction order.* FEA has evaluated the additional capital investment costs required in order to design and construct the MFBI to be capable of burning coal as its primary energy source. This calculation is based on existing FEA information and analysis, as well as information filed with FEA by the owner concerning the cost of equipment and facilities that would have to be acquired. Approximate costs to comply with applicable environmental protection requirements have also been considered, including the cost of compliance with the air pollution control requirements of the Clean Air Act.

2. *Capability of the owner to raise the increased capital investment.* This analysis is based upon an evaluation of the owner's current financial position as reported in the *Dun and Bradstreet Reference Book* (March 1977). Where necessary, FEA has performed an independent analysis of the owner's financial capability. In those cases in which an independent analysis of the owner's ability to recover the additional capital investment was performed, FEA related the additional capital investment costs discussed in paragraph B.1., above, and the plan change costs discussed in paragraph II.A., above, to the owner's net property and plant assets, the owner's reported recent construction expenditures and the owner's equity.

In considering the owner's ability to recover the increased capital investment costs, FEA has compared these increased costs, the demonstrated ability of the owner to raise the additional capital, any loss of revenue resulting from a delay, if any, in the commencement of operations of the MFBI resulting from a Construction Order, the owner's historical profit profile, and a presumed useful life of the MFBI after construction of 40 years.

In light of such considerations, FEA presumes that the owner's capability to recover any increase in capital is confirmed since the owner can both raise the necessary additional capital for construction with coal burning capability and has historically shown a profit profile.

Appendix—Proposed Findings and Rationale for Notice of Intention To Issue A Construction Order

ESECA and the FEA regulations require FEA to make certain findings and determinations and to consider certain factors before issuing a Construction Order to a Major Fuel Burning Installation (MFBI). FEA's proposed findings, as well as its proposed conclusions with respect to the factors FEA has considered, are set out below with respect to the MFBI's named below. Supporting rationale and conclusions are also set forth.

Docket No.	Owner	Installation	Unit	Location
OCU–2820–1–1	Federal Paper Board Co., Inc.	Rieglewood operations.	Power boiler 5	Rieglewood, N.C.

These findings, determinations and considerations, which are now proposed by FEA, are based on the information that has been provided to and developed by FEA prior to the issuance of this Notice of Intention (NOI) to issue a Construction Order.

Federal Paper Board Company, Incorporated shall be referred to as the "owner". Rieglewood Operations Power Boiler 5 shall be referred to as the "MFBI".

I. *Proposed findings.*

A. *The MFBI is in the early planning process.* Based on an analysis of the information submitted to FEA by the owner on Form FEA C–607–S–0 and information provided by the owner in response to subsequent inquiry to assure the continued applicability and currency of such information, including, as appropriate, an on-site inspection visit, FEA proposes to find that the MFBI is in the early planning process. This proposed finding is based on the facts, assumptions and reasoning referenced below:

1. Schedule A–2 of Form FEA C–607–S–0 submitted by the owner shows that the preliminary feasibility study was completed.

2. Information supplied by the owner or otherwise acquired by FEA indicates that the early planning process for this MFBI has not terminated.

3. Schedule A–2 of Form FEA C–607–S–0 submitted by the owner shows that the MFBI meets the minimum design firing rate requirement.

B. *Within the terms of ESECA, FEA has been unable to determine that an adequate and reliable supply of coal is not expected to be available.* This proposed determination is based upon the facts, interpretations and assumptions stated below:

1. *Coal availability.*—(a) *National coal reserves.* United States coal reserves are more than sufficient to supply national needs for the future. United States Department of the Interior, Bureau of Mines (BOM) data show a demonstrated coal reserve base of over 400 billion tons, over half of which is currently technically and economically recoverable (*Demonstrated Coal Reserve Base of the United States, by Sulfur Category, on January 1, 1974*, Bureau of Mines (May 1975) [hereafter "BOM Survey"]). Within these recoverable reserves approximately 200 billion tons contain 1% or less sulfur by weight. To determine when certain quantities of these reserves are expected to be available, FEA has examined several studies referenced herein which together provide the best current evidence as to coal availability.

(b) *National coal production and demand.* The comparison, stated below, of estimated national coal production, national coal demand, and the total tonnage of uncommitted planned coal production (derived from re-

sponses to a survey of coal producing companies) shows that there should be sufficient Op 31-10; J. 90-000; Fol. 1122; Mach. 68 production of coal to meet the total national demand through 1980. Beyond 1980, plans for new production are not yet fully developed because few coal producers have firm expansion plans that extend that far into the future; however, the projected total planned national coal production for 1985 already meets over 99% of the total U.S. demand expected in 1985. With time, more potential mine developments will become firm plans, thus increasing the planned production.

(1) *National coal production.* It is conservatively estimated that it will be practicable to produce coal nationally in at least the following quantities:

Year:	*Production potential (million tons)*
1977	732.3
1978	791.6
1979	851.4
1980	911.7
1981	960.0
1982	994.3
1983	1,017.4
1984	1,028.7
1985	1,029.6

The figures shown above are derived from FEA's Coal Mine Expansion Study (May 1976). This study demonstrates that most coal producers did not have firm or accurate plans for new capacity additions beyond 1980. The 1985 projection, therefore, tends to underestimate actual production potential.

An FEA study, *Coal Availability Report*, April 1977, (hereafter "Availability Report"), indicates current plans for nationwide production of uncommitted coal as follows:

Year:	*Production (million tons)*
1978	124.3
1979	243.1
1980	293.3
1981	350.0
1982	369.9
1983	396.2
1984	475.5
1985	544.9

(2) *National demand exclusive of ESECA prohibition order demand.* The estimated national demand, excluding any increased demand resulting from FEA action under the authority of Section 2(a) of ESECA, is as follows (FEA 1976 National Energy Outlook):

Year:	*Demand (million tons)*
1978	730
1979	764
1980	799
1981	842
1982	887
1983	935
1985	985
1985	1,040

(3) *National ESECA prohibition order demand.* The estimated potential demand for coal resulting from all Notices of Intention to issue Prohibition Orders to date and from all outstanding Prohibition Orders issued to date under Section 2(a) of ESECA is no more than the following ("Availability Report"):

Year:	*Demand (million tons)*
1978	11.0
1979	22.4
1980	32.5
1981	35.8
1982	57.4
1983	59.8
1984	59.8

(c) *State or local laws.* FEA has found no state or local laws or policies limiting the extraction or utilization of coal that would adversely affect these production figures, and none have been brought to FEA's attention.

(d) *Conclusion.* Potential coal demand from this MFBI and from all other MFBI's which are currently under consideration to receive Notices of Intention to issue Construction Orders under authority of Section 2(c) of ESECA is not included in the total national demand stated in paragraph 1.(b)(2), above. Coal demand from such MFBI's is also not calculated in currently projected ESECA generated demand since it is infeasible to anticipate specific quality characteristics for the coal that will be required by these MFBI's so far in advance of their actual construction.

As noted previously, plans for new coal production beyond 1980 are not yet fully developed because few coal producers have firm expansion plans that extend that far into the future. The projection for national coal production potential in 1985 cited in paragraph 2.(a), above, tends to underestimate actual production potential.

FEA has considered these facts and the fact that the potential annual demand for coal will increase once this MFBI and others become operational.

FEA expects, however, (based on an analysis of the "BOM Survey", the *Coal Mine Expansion Study*, the *FEA 1976 National Energy Outlook*, and the "Availability Report," cited above) that national coal production potential will substantially exceed the total national demand for coal in amounts sufficient in any year to met the estimated potential additional demand for coal if all MFBI's currently under consideration were to receive Construction Orders under Section 2(c) of ESECA. Within the terms of ESECA, FEA has been unable to determine that coal is not expected to be available for this MFBI once it becomes operational. The best available evidence suggests that coal production potential will, in fact, considerably exceed all demand for the years pertinent to this proposed order.

The coal for this MFBI will probably be bought from producers according to regional supply/demand relationships related to the MFBI's location. FEA observes, however, that the MFBI could purchase coal in other markets as such production becomes available. (*The Feasibility of Considering Expanded Use of Western Coal by Midwestern and Eastern Utilities in the Period 1978 and Beyond*, School of Engineering, University of Pennsylvania, November 7, 1975.)

(e) *Coal transportation.* FEA has considered the availability of national coal transportation facilities. Generally, FEA considers construction lead times pertinent to MFBI's in the early-planning process to be sufficient to allow owners to secure appropriate coal transportation and coal transportation facilities prior to becoming operational.

II. *Factors which ESECA requires FEA to consider.*

A. *The existence and effects of any contractual commitment for the construction of the MFBI.* FEA has considered the existence and effects of any contractual commitment for the construction of the MFBI which the owner has reported to FEA in a Schedule of Plan Change Costs attachment to a Form FEA C-607-S-0 Schedule A-3, or otherwise. FEA has considered the additional costs which would be incurred in connection with existing contractual commitments should FEA require that the MFBI be designed and constructed to be capable of using coal as its primary energy source. Accordingly, FEA has included these costs in its consideration of the capability of the owner to recover any increase in capital investment required as a result of a Construction Order.

B. *The capability of the owner to recover any increase in projected capital investment required as a result of a construction order.* FEA has considered, in the manner described below, the capability of the owner to raise and to recover the increased capital investment expected to result from the issuance of a Construction Order.

1. *Increased capital investment required as a result of a construction order.* FEA has evaluated the additional capital investment costs required in order to design and construct the MFBI to be capable of burning coal as its primary energy source. This calculation is based on existing FEA information and analysis, as well as information filed with FEA by the owner concerning the cost of equipment and facilities that would have to be acquired. Approximate costs to comply with applicable environmental protection requirements have also been considered, including the cost of compliance with the air pollution control requirements of the Clean Air Act.

2. *Capability of the owner to raise the increased capital investment.* This analysis is based upon an evaluation of the owner's current financial position as reported in the *Dun and Bradstreet Reference Book*, (March 1977). Where necessary, FEA has performed an independent analysis of the owner's financial capability. In those cases in which an independent analysis of the owner's ability to recover the additional capital investment was performed, FEA related the additional capital investment costs discussed in paragraph B.1., above, and the plan change costs discussed in paragraph II.A., above, to the owner's net property and plant assets, the owner's reported recent construction expenditures and the owner's equity.

In considering the owner's ability to recover the increased capital investment costs, FEA has compared these increased costs, the demonstrated ability of the owner to raise the additional capital, any loss of revenue resulting from a delay, if any, in the commencement of operations of the MFBI resulting from a Construction Order, the owner's historical profit profile, and a presumed useful life of the MFBI after construction of 40 years.

In light of such considerations, FEA presumes that the owner's capability to recover any increase in capital is confirmed since the owner can both raise the necessary additional capital for construction with coal burning capability and has historically shown a profit profile.

[FR Doc.77-13701 Filed 5-13-77;8:45 am]

ENERGY SUPPLY AND ENVIRONMENTAL COORDINATION ACT

Intent To Issue Prohibition Orders To Certain Installations

The Federal Energy Administration (FEA) hereby gives notice of its intention to issue Prohibition Orders, pursuant to the authorities granted it by Section 2 (a) and (b) of the Energy Supply and Environmental Coordination Act of 1974, as amended (ESECA), and Title 10, Code of Federal Regulations (10 CFR), Parts 303 and 305 to the following installations:

Docket No.	Owner	Installation	Unit No.	Location
OCU-0342	Union Camp Corp.	Savannah plant	10	Savannah, Ga.
OCU-0651	Scott Paper Co.	Mobile plant	4, 6	Mobile, Ala.
OCU-0778	International Paper Co.	Vicksburg plant	1	Vicksburg, Miss.
OCU-0091	Continental Forest Industries, a member of the Continental Group, Inc.	Port Wentworth mill	1, 2, 3, 4	Port Wentworth, Ga.
OCU-1306	Weyerhaeuser Co.	Plymouth plant	2, 3	Plymouth, N.C.
OCU-2057	Monsanto Co.	Pensacola plant	1, 2, 3, 4, 5, 6	Pensacola, Fla.
OCU-2612	Bowater Southern Paper Corp.	Calhoun mill	1, 2, 3, 4, 5	Calhoun, Tenn.
OCU-3066	Westvaco Corp.	Charleston plant	4, 5	Charleston, S.C.

FEA hereby also gives notice of the opportunity for oral and written presentation of data, views, and arguments by interested persons regarding these proposed Prohibition Orders.

The proposed orders would prohibit the above-named installations from burning natural gas or petroleum products as their primary energy source.

Prior to issuance of a Prohibition Order to an installation, Section 2(a) of ESECA and 10 CFR 303.36(b) and 305.4(b) require that FEA find that the installation had the capability and necessary plant equipment to burn coal as of June 22, 1974. A Prohibition Order may not be issued unless FEA can find that the prohibition of the utilization of natural gas or petroleum products as a primary energy source is practicable and consistent with the purposes of ESECA and that coal and coal transportation facilities will be available during the period the Prohibition Order will be in effect. FEA's proposed findings, as well as its proposed conclusions and rationale with respect to these findings, for each installation are set out in the Appendix to this notice. These findings, conclusions, and rationale may be amended as a result of comments received by FEA pursuant to this notice and other information available to FEA. The findings, conclusions, and rationale will be included, with any amendments, for each Prohibition Order that is issued.

Upon completion of the proceedings described in this notice, FEA may determine to issue Prohibition Orders to some or all of the above-named installations. These Prohibition Orders will not become effective, however, until (1) either (a) the Administrator of the Environmental Protection Agency (EPA) notifies the FEA, in accordance with Section 119(d)(1)(B) of the Clean Air Act, that the installation is able to burn coal and to comply with all applicable air pollution control requirements without a compliance date extension under Section 119(c) of such Act, or (b) if such notification is not given by EPA, the date that the Administrator of EPA certifies, pursuant to Section 119(d)(1)(B) of the Clean Air Act, is the earliest date that the installation will be able to comply with all applicable requirements of Section 119 of that Act, and (2) FEA has considered the environmental impact of making the order effective, pursuant to 10 CFR 208.3(a)(4) and 305.9, and has served the affected installation with a Notice of Effectiveness, as provided in 10 CFR 303.10(b), 303.37(b), and 305.7. The date the Prohibition Order will be effective will be stated in the Notice of Effectiveness.

10 CFR 305.9 requires that, prior to issuance of a Notice of Effectiveness to an installation, FEA shall perform an analysis of the environmental impact of the issuance of such Notice of Effectiveness. That analysis shall result in either (1) issuance of a declaration that the Prohibition Order will not, if made effective by issuance of a Notice of Effectiveness, be likely to have a significant impact on the quality of the human environment, or (2) the preparation by FEA of an environmental impact statement covering significant site-specific impacts that are likely to result from the Prohibition Order and that have not been adequately addressed in the Final Programmatic Environmental Impact Statement or in other official documents made publicly available. If FEA prepares an environmental impact statement covering significant site-specific impacts resulting from making a Prohibition Order effective, the statement shall be prepared and published for comment in accordance with Section 102(2)(C) of the National Environmental Policy Act of 1969 prior to issuance of a Notice of Effectiveness. Interested persons may request a public hearing pursuant to 10 CFR 303.173 to comment on the contents of a draft environmental impact statement. With respect to comments regarding any impact on air quality that might result from a proposed Prohibition Order, however, it should be recognized that ESECA has assigned to EPA the primary responsibility for analyzing the effect of any such order on the Nation's air quality and for determining the applicable air pollution control requirements that apply to the installation that has been issued an order. It is expected that, in almost every case, an installation to which a Prohibition Order is issued will be eligible to apply to EPA for a compliance date extension. In connection with that application, EPA must also provide an opportunity for written comment and oral presentation of data, views, and arguments by interested persons. Enclosed with the Notice of Effectiveness may be a compliance reporting schedule to insure that the installation will be able to comply with the prohibition of the burning of natural gas or petroleum products as a primary energy source on the effective date specified in the Notice of Effectiveness.

Public comment on the proposals to issue Prohibition Orders to the installations listed above is invited in the form of written and oral presentation of data, views, and arguments. Comments should relate to individual docket numbers and should make clear to which docket number the individual comment is addressed.

Comments should address (1) the adequacy and validity of each of the proposed findings and the conclusions and rationale in support of these findings, (2) the environmental impact of making effective a Prohibition Order, including any site-specific environmental impacts, and (3) any other aspects or impacts of the proposed Prohibition Order believed to be relevant.

Pursuant to 10 CFR 303.173 (a) and (d) and 305.5, FEA hereby announces that a public hearing to receive oral presentation of data, views, and arguments of interested persons will be held beginning at 9 a.m. on May 26 and 27, 1977, at the Atlanta Civic Center, Room 104, 395 Piedmont Avenue NE., Atlanta, Georgia 30308. Any person who has an interest in the subject of the hearing or who is a representative of a group or class of persons which has an interest in the subject of the hearing may make a written request, or a verbal request if confirmed in writing, for an opportunity to make an oral presentation. That request should be directed to Warren Zurn, FEA Region IV, 1655 Peachtree Street NE., Atlanta, Georgia 30309, 405–881–4463. The request should be received before 4:30 p.m., Friday May 20, 1977. The request should describe the person's interest in the issue(s) involved; if appropriate, it should state why the person is an appropriate representative of the group or class of persons which has such an interest; it should give a concise summary of the proposed oral presentation and a phone number where the person may be contacted through May 25, 1977. Speakers should submit ten (10) copies of their oral presentation if possible, unless such presentation is less than five (5) pages, in which case only one copy is required, to Donald Allen, Regional Administrator, Federal Energy Administration, 1655 Peachtree Street N.E., Atlanta, Georgia 30309, before 4:30 p.m., Wednesday, May 25, 1977. Speakers will be contacted by an FEA representative before 4:30 p.m., Monday, May 23, 1977, to confirm receipt of the written request.

Detailed technical data, views, and arguments should be contained in a written submission in support of the oral presentation. The oral presentation itself should be a summary of those written comments.

While FEA will endeavor to provide adequate opportunity to all who desire to speak, FEA reserves the right to limit the number of persons to be heard at the hearing, to schedule their respective presentations and to establish the procedures governing the conduct of the hearing. The length of time allocated to each presentation may be limited on the basis of the number of persons requesting to be heard. The FEA will prepare an agenda that shall provide, to the extent possible, for the presentation of all relevant data, views, and arguments.

An FEA official will be designated to preside at the hearing which will not be a judicial or evidentiary hearing. During oral presentations only those conducting the hearing may ask questions. There will be no cross-examination. At the conclusion of all initial oral presentations, each person who has made an oral statement will be given the opportunity, if he or she so desires, to make a rebuttal statement. The rebuttal statements will be given in the order in which the initial statements were made and will be subject to time limitations.

Any interested person may submit written questions to the presiding officer to be asked of any person making an oral presentation. The presiding officer will determine whether to ask the question, having first determined whether the question is relevant, and whether adequate time may be afforded for an answer.

Any further procedural rules needed for the proper conduct of the hearing will be announced by the presiding officer.

A transcript of the hearing will be made and it, together with any written comments submitted in the course of the hearing, will be retained by the FEA and made available for inspection and copying at the Freedom of Information Reading Room, Room 2107, Federal Building, 12th and Pennsylvania Avenue NW., Washington, D.C. 20461, and the FEA Regional Office, 1655 Peachtree Street NE., 7th Floor, Atlanta, Georgia 30309, between the hours of 8 a.m. and 4:30 p.m., Monday through Friday. Anyone may purchase a copy of the transcript from the reporter.

Interested persons are invited to submit written comments consisting of data, views, and arguments with respect to these proposed Prohibition Orders to Executive Communications, Box MK, Federal Energy Administration, Federal Building, Room 3317, 12th and Pennsylvania Avenue NW., Washington, D.C. 20461.

Comments and other documents submitted to FEA Executive Communications should be identified on the ouside of the envelope in which they are transmitted and on the document itself with the designation "Proposed Prohibition Order for the _____ Installation." Fifteen copies should be submitted.

All written comments received by 4:30 p.m., Tuesday, June 14, 1977, all oral presentations, and all other relevant information submitted to or available to FEA will be considered by FEA prior to issuance of a Prohibition Order.

Any information or data considered to be confidential by the person furnishing it must be so identified and submitted in writing, one copy only. The FEA reserves the right to determine the confidential status of the information or data and to treat it in accordance with that determination.

Copies of the regulations implementing Section 2 (a) and (b) of ESECA (10 CFR Parts 303 and 305) are available from the following FEA Regional Offices:

REGION, ADDRESS, AND PHONE

I. Robert Mitchell, Regional Administrator, 150 Causeway Street, Room 700, Boston, Mass. 02113—617-223-3701.

II. Alfred Kleinfeld, Regional Administrator, 26 Federal Plaza, Room 3206, New York, N.Y. 10007—212-264-1021.

III. J. A. LaSala, Regional Administrator, 1421 Cherry Street, Room 1001, Philadelphia, Pa. 19102—215-597-3390.

IV. Donald Allen, Regional Administrator, 1655 Peachtree Street NW., 8th Floor, Atlanta, Ga. 30309—404-526-2837.

V. N. Allen Anderson, Regional Administrator, Federal Office Building, 175 West Jackson Blvd., Room A-333, Chicago, Ill. 60604—312-353-0540.

VI. Delbert Fowler, Regional Administrator, Post Office Box 35228, 2626 West Mockingbird Lane, Dallas, Tex. 75235—214-749-7345.

VII. Neil Adams, Regional Administrator, 1150 Grand Avenue, Kansas City, Mo. 64106—816-374-2061.

VIII. Dudley Faver, Regional Administrator, Post Office Box 26247, Belmar Branch, 1075 South Yukon Street, Lakewood, Colo. 80226—303-234-2420.

IX. William Arntz, Regional Administrator, 111 Pine Street, San Francisco, Calif. 94111—415-556-7216.

X. Jack B. Robertson, Regional Administrator, 1992 Federal Building, 915 Second Avenue, Seattle, Wash. 98174—206-442-7280.

MFBI PROHIBITION ORDER CANDIDATE IDENTIFICATION AND SELECTION METHODOLOGY

FEA has engaged in a two year, two part, process in which it first identified, after extensive information gathering, the potential universe of major fuel burning installations (MFBI's) in order to determine which MFBI's might be subject to Prohibition Orders. FEA then performed a detailed analysis of individual potential order recipients to determine whether facts would warrant publication of a Notice of Intention (NOI) to Issue a Prohibition Order to any of the potential order recipients.

I. *Determination of candidate universe.* On March 20, 1975, by Notice in the FEDERAL REGISTER (40 FR 12706), FEA required MFBI's with design firing rates in excess of 100 million BTU's per hour to provide basic identifying information. (FEA in its regulations published on May 9, 1975, (40 FR 20463) adopted the 100 million BTU's per hour design firing rate as the minimum size MFBI that would be eligible for a Prohibition Order).

On April 18, 1975, FEA published notice in the FEDERAL REGISTER (40 FR 17328) that it would mail to all then known MFBI's a questionnaire, entitled "Major Fuel Burning Installation Coal Conversion Report" (Form FEA C-602-S-0), designed to provide FEA with additional information needed to help determine whether the MFBI's would be candidates for Prohibition Orders. Questionnaires were mailed to those respondents to the March 20, 1975, FEDERAL REGISTER notice and to other MFBI's identified through data provided by FEA regional personnel, the Environmental Protection Agency, other Federal agencies, and through contact with trade associations. A total of 822 parent companies responded to the survey, identifying 3,482 installations and 6,289 individual units.

The first survey provided FEA with historical information on quantity and quality of fuel use and preliminary pollution control data relative to the facilities in question.

Compilation and evaluation of the information received from the survey led to development of a supplemental questionnaire (Form FEA C-602-S-1) to elicit data on the financial situation of owners of MFBI's, including information designed to ascertain what the effects of a Prohibition Order would be on an individual company basis. This questionnaire was designed to provide a basis for subsequent analysis of the MFBI in terms of financial capability, additional capital investment costs resulting from a Prohibition Order, operating cost differentials and coal and coal transportation availability. This supplemental questionnaire was sent in June 1976 to various owners of MFBI's to obtain information on 161 sites and 281 individual units.

Most of the supplemental questionnaires (involving 138 sites and 246 units) were sent to owners of MFBI's identified as capable of burning coal in the first questionnaire and which, in 1974, burned at least 150,000 barrels of oil or 921,000,000 cubic feet of natural gas or a Btu equivalent combination. These MFBI's were chosen because of their potential for large fuel savings and the potential low conversion costs to fuel savings ratio.

The other supplemental questionnaires were sent to MFBI's which had indicated an intention to discontinue coal use (23 sites at which there were 35 units).

In September 1976, after responses to the supplemental questionnaires had been received, FEA consulted with the Environmental Protection Agency (EPA) to obtain EPA's best estimate as to the means by which these MFBI's could burn coal and comply with all applicable air pollution control requirements. EPA indicated whether particular MFBI's would require upgrading, or installation of electrostatic precipitators, installation of flue-gas desulfurization devices, or whether the MFBI could burn coal that would conform to air pollution control requirements without pollution control equipment.

II. *Site specific analysis.* Once FEA had gathered the supplemental data relating to the 161 sites, it then conducted a technical analysis for each respondent to the supplemental questionnaire.

FEA prepared a technical summary based on the information provided to enable the Agency to analyze each respondent's potential amenability to receipt of an NOI. The technical summary consisted of the following data:

(a) Expected remaining useful life (respondent's and FEA's estimates);

(b) Unit capacity;

(c) Fuel consumption for 1975;

(d) The last year coal was burned at the installation;

(e) Costs of converting to coal, including pollution control equipment costs, if any (respondent's and FEA's estimates);

(f) Type of pollution control equipment, if any, required (respondent's and EPA's estimates); and

(g) Other relevant factors, such as percent sulfur content in coal that would be required to insure compliance with environmental standards.

FEA eliminated or deferred from further consideration those MFBI's for which the following criteria were applicable:

(a) Remaining useful life of the MFBI on January 1, 1978 would be less than one year (based on an expected useful life of 40 years);

(b) The utilization factor of the MFBI was less than 20 percent;

(c) Space required for coal use at the installation was inadequate or unavailable;

(d) Since filing the original questionnaire, the MFBI had been converted to coal as its primary energy source or the owner has certified that the MFBI will be so converted in the near future;

(e) The MFBI used (in the latest year for which fuel use figures are available) significantly less than 2×10^{12} BTU's of oil or natural gas.

Items a or b above, would prevent FEA from finding that burning coal by the MFBI would be practicable. FEA assumed a forty-year useful life as a reasonable estimate based on general industrial averages. FEA has decided not to analyze MFBI's that have already converted to coal, since the basic purposes of ESECA have already been accomplished by such conversions and FEA has concluded that its resources would be better allocated by concentrating on those MFBI's which are not now burning coal.

Certain MFBI's were eliminated from further analysis upon FEA's determination that one or more of the factors which FEA must consider pursuant to Section 305.44(c) of its regulations would have resulted in disqualification of a particular MFBI. Such eliminations were based on factors such as process fuel uses peculiar to the MFBI's, inadequate land or space for coal related facilities, unique or unusual environmental constraints, and other similar disqualifying considerations.

If in FEA's judgment, analysis of the summary information raised issues that required further investigation, FEA conducted visits to the specific sites. Site visits were employed in circumstances in which large discrepancies between FEA's and the MFBI's cost estimates were observed, unusual technical problems were presented by the MFBI with respect to coal use, and when other disparities occurred between the information submitted by the MFBI and that developed independently by FEA. Information developed during the site visits served to either eliminate an MFBI from further consideration, through the aforementioned criteria, or served to demonstrate that FEA should continue its analysis.

For each MFBI not eliminated through any of the above criteria, FEA has calculated the net operating cost differential between using coal as the MFBI's primary energy source and using either natural gas or petroleum products.

A. *Calculation of net operating cost differential.* The net operating cost differential consists of the sum of (1) annualized increased capital investment costs required for conversion to coal, (2) differences in operating and maintenance costs (including the fuel cost differential), and (3) the potential tax consequences attendant to conversion. Initially, FEA performs two calculations in determining the net operating cost differential, one using cost figures supplied by the MFBI and the other using FEA's own estimates. When the MFBI's figures are within a reasonable range of FEA's estimates, FEA generally accepts the MFBI's figures. Gross discrepancies are examined in more detail by FEA to determine the reasonableness of the differing estimates and to reconcile differences.

The elements of the three parts of the net operating cost differential are explained below:

1. *Capital investment costs.* The primary element in this part is the cost of equipment acquisition and refurbishment required for conversion to coal, including refurbishment or acquisition of pollution control equipment. In determining the estimated annual increase fixed costs to the owner resulting from such capital investment, FEA calculates the annual depreciation of equipment costs over the expected remaining useful service life of the MFBI (including consideration of the investment tax credit) and adds the estimated annual cost of capital.

Annual depreciation is calculated as follows: (a) Determine cost of new equipment (including pollution control equipment) minus investment tax credit of 10 percent.

(b) Divide the figure in a, above, by the expected remaining useful life of the MFBI after conversion is completed. FEA presumes that the MFBI's determination of remaining useful life is correct if it results in a total useful life of at least 40 years. Otherwise, FEA will conduct a more detailed examination of the MFBI.

Calculation of the approximate annual cost of capital is as follows: (a) New and refurbished equipment costs minus the investment tax credit, plus.

(b) Twice the cost of land acquisitions required for conversions to coal burning.

(c) The total of (1) and (2) is divided by 2 and then multiplied by a 10 percent interest rate.

2. *Operating and maintenance costs.* The primary factor considered in this calculation is the annual fuel cost differential which represents the difference between operating the MFBI with coal as its primary energy source in lieu of petroleum products or natural gas. (If the current supply of natural gas to the MFBI is curtailed, then the calculation of the fuel cost differential does not include natural gas as part of the MFBI's current fuel use to the extent of that curtailment. In such cases the NOCD was calculated on the basis of actual fuel usage.) FEA has generally accepted the coal price reported by the MFBI's. If FEA considered the stated price to be unreasonable, it further examined coal prices based upon an analysis of delivered prices of coal in the area of the MFBI under consideration and an analysis of likely coal sources. Projected coal use after conversion was calculated by converting latest annual fuel data to its Btu equivalent for coal.

Determination of the differential relating to labor costs and the differential relating to other operating and maintenance costs was based upon estimates supplied by the MFBI's.

3. *Potential tax effects.* Federal and state tax rates have been applied to the net operating differential to determine maximum potential tax effects resulting from a Prohibition Order.

If the NOCD for an MFBI was positive, i.e., projects an increase in annual costs of operations, then a calculation of the cost per barrel of oil saved was performed by dividing the NOCD by the number of barrels of oil actually used on an annual basis (or, if the MFBI was a natural gas user, the number of barrels of oil which would be required to replace the gas use on an equivalent Btu basis). This figure (cost per barrel of oil saved) was then considered in terms of the number of barrels of oil and/or MCF of natural gas that would be saved by issuance of a Prohibition Order, the effect of the NOCD on the MFBI owner's operating expenses, as well as various environmental and other factors in reaching the final determination as to which candidates should receive an NOI.

It is to be noted that much of the information used by FEA to make its practicability findings is arguably confidential under 18 U.S.C. 1905. Therefore, such information has not appeared in the Appendix to the NOI. The calculations have been explained in each case and the data are available to the representatives of the owner of the MFBI.

Any questions regarding this Notice should be directed to the FEA National Office as follows: Federal Energy Administration, Code OCU (Prohibition Order: _____ Installation), Washington, D.C. 20461, (202) 566-7941.

(Energy Supply and Environmental Coordination Act of 1974 (15 U.S.C. 791 et seq.), as amended by Pub. L. 94-163; Federal Energy Administration Act of 1974 (15 U.S.C. 761 et seq.), as amended by Pub. L. 94-385; E.O. 11790 (39 FR 23185).)

Issued in Washington, D.C., May 9, 1977.

ERIC J. FYGI,
Acting General Counsel,
Federal Energy Administration.

APPENDIX—PROPOSED FINDINGS AND RATIONALE FOR NOTICE OF INTENTION TO ISSUE A PROHIBITION ORDER

ESECA and the FEA regulations require FEA to make certain findings before issuing a Prohibition Order to a major fuel burning installation (MFBI). FEA's proposed findings are set out below with respect to the MFBI named below. Supporting rationale and conclusions are also set forth.

Docket No.	Owner	Installation	Unit No.	Location
OCU-0342	Union Camp Corp.	Savannah plant	10	Savannah, Ga.

These findings, which are now proposed by FEA, are based on the information that has been provided to and developed by FEA prior to the issuance of this Notice of Intention (NOI) to issue a Prohibition Order.

Union Camp Corporation shall be referred to as the "owner" and as "Union Camp." Savannah Plant Unit 10 shall be referred to as the "MFBI" and as "Savannah 10."

I. *Capability and necessary plant equipment to burn coal.*

FEA proposes to find that on June 22, 1974, Savannah 10 had the capability and necessary plant equipment to burn coal. This proposed finding is based on the facts and interpretations stated below:

A. Union Camp, in a Major Fuel Burning Installation Coal Conversion Report, Section II, Questions 6, and 12–14, (Form FEA C–602–S–0) filed on May 20, 1975 indicated that the MFBI had in place on June 22, 1974, a boiler that was capable of burning coal. The boiler had been designed and constructed or modified to burn coal as its primary energy source, notwithstanding the fact that on June 22, 1974, the MFBI may not have been burning coal as its primary energy source.

B. Based on information Union Camp filed with FEA dated March 7, 1977 and other information available to FEA, the following plant equipment and facilities at Savannah 10 would have to be acquired or refurbished in order for this MFBI to burn coal as its primary energy source:

1. Air heaters.
2. Combustors.
3. Ash handling equipment.
4. Storage bunkers.
5. Conveyors.
6. Crushers.
7. Pulverizers.
8. Soot blowers.
9. Instruments and controls.
10. Scales.
11. Feeders.
12. Fans and ducts.
13. Unloaders.

C. FEA proposes to find that on June 22, 1974, Savannah 10 had all other significant plant equipment and facilities associated with the burning of coal.

D. Within the meaning of ESECA and the regulations promulgated pursuant thereto, the equipment and facilities listed in paragraph B, above, do not individually or in combination constitute a lack of capability and necessary plant equipment to burn coal as of June 22, 1974.

II. *The burning of coal in lieu of natural gas or petroleum products is practicable and consistent with the purposes of ESECA.*

FEA proposes to find that the burning of coal in lieu of petroleum products or natural gas at Savannah 10 is practicable and consistent with the purposes of ESECA. This proposed finding is based upon an analysis by FEA of the fuel consumption of this boiler for the period 1973–1975, the remaining useful service life of the boiler after conversion, the net operating cost differential that would result from compliance with a Prohibition Order, as well as the facts and interpretations referenced below:

A. *The burning of coal is practicable.*

1. *Anticipated fuel supplies.—Curtailment of natural gas supply.* Based on information obtained from the Federal Power Commission, the natural gas supplier, and in certain cases the owner, FEA presumes that the MFBI will experience a substantial curtailment of its present supply of natural gas. The curtailment will result in increased reliance on alternate fuels in the future.

2. *Costs associated with burning coal.*—a. *Capital investment costs.* The total estimated initial capital investment costs, including financing costs, that would result from the acquisition and refurbishment of equipment and facilities associated with the burning of coal at Savannah 10 have been determined.

This determination was based on existing FEA information and analysis as well as information filed with FEA by the owner. Approximate costs to comply with applicable environmental protection requirements have also been considered, including the cost of compliance with the air pollution control requirements of the Clean Air Act.

b. *Annual operating and maintenance costs.* The expected increase in operating and maintenance costs, exclusive of fuel costs, that would result from the burning of coal has been calculated based on information supplied by the owner or otherwise acquired by FEA.

c. *Fuel costs.* Based on an analysis of annual fuel consumption and fuel cost information supplied by the owner and/or, in appropriate circumstances, upon FEA's fuel cost estimates, FEA has determined that the burning of coal in lieu of natural gas or petroleum products at Savannah 10 will result in a decrease in annual fuel costs.

d. *Net operating cost differential.* Based on the factors stated in paragraphs A.1.a–3., above, as well as the expected remaining useful life of the boiler after conversion, FEA has determined that the net annual operating cost differential hereafter "NOCD", (which represents the difference between operating the boiler with coal and alternate fuel(s) as its primary energy source), resulting from the conversion of Savannah 10 will represent an annual savings.

3. *Reasonableness of additional costs of burning coal.* The following analysis of the costs of conversion provides the basis for deciding that compliance with the proposed order is not unreasonable. By converting from burning natural gas to burning coal as the primary energy source the MFBI would experience a net annual operating cost increase, but would save a substantial amount of natural gas. This cost would only be incurred for a limited period because the MFBI will eventually experience a substantial curtailment of its supply of natural gas. If the prohibition order were not issued to the MFBI it could alternately replace its current natural gas supply with either petroleum products or coal for the period following such substantial curtailment of its natural gas supply.

In the calculation of the NOCD, FEA has considered oil as a substitute fuel for curtailed natural gas. In calculating the NOCD, in those instances where the MFBI has experienced no curtailment of its natural gas supply, FEA considered the present fuel usage. The net annual operating cost differential for this MFBI resulting from operating on coal as the primary energy source, instead of petroleum products (and/or natural gas where applicable), will represent an annual savings.

Since the use of the coal alternative, instead of petroleum products, could be expected to result in a net cost savings, FEA has determined that the prohibition against burning natural gas or petroleum products as the primary energy source at this MFBI is not unreasonable.

The additional costs that would be incurred from prohibiting the burning of natural gas as the primary energy source at this MFBI would only be incurred for a limited period of time. In view of the scarcity of national supplies of natural gas and the likelihood that Savannah 10 will experience a substantial curtailment of its present supply of natural gas in the future, FEA has determined that the cost of burning coal in lieu of natural gas is not unreasonable (*Final Report Oil and Gas Resources, Reserves, and Productive Capacities Volumes I and II* Federal Energy Administration October 1975). This determination is further supported by consideration of the savings that would result from the burning of coal in lieu of potential alternate petroleum products for the period after which the natural gas supply to Savannah 10 would be substantially curtailed.

4. *Financial capability of the owner.*—a. *Recovery of capital investment.* FEA proposes to find that compliance with a Prohibition Order by Savannah 10 would be economically feasible. FEA's analysis took into consideration the financial capability of the owner and is based upon the owner's financial position as reported in the *Dun and Bradstreet Reference Book* (March 1977). Where necessary FEA performed an independent analysis of the owner's financial capability, considering such factors as the owner's current financial statement and the additional capital investment required for the owner to comply with this NOI and all other NOI's which are currently under consideration, as well as additional capital investment costs related to all other Notices of Intention, to date, if any, to issue Prohibition or Construction Orders, and from all outstanding Prohibition or Construction Orders, if any, issued to date under authority of Section 2 (a) and (c) of ESECA to MFBI's owned by Union Camp. FEA related these additional capital investment costs to the total capitalization of Union Camp and the remaining useful life after conversion of Savannah 10.

FEA does not consider the effect of the added capital investment costs to represent an unreasonable burden given the financial capabilities of Union Camp to assume such costs.

b. *Total annual costs associated with conversion.* The total estimated annual increase in costs (amortized increased capital investment costs and other costs, exclusive of fuel costs) associated with the burning of coal as opposed to natural gas attributable to compliance with this NOI and all other NOI's which are currently under consideration has been determined. FEA also took into consideration total annual costs resulting from compliance with all other Notices of Intention, to date, if any, to issue Prohibition or Construction Orders, and from all outstanding Prohibition or Construction Orders, if any, issued to date under authority of Sec-

tion 2 (a) and (c) of ESECA to Union Camp MFBI's.

However, due to the potential offsetting value of fuel cost savings attributable to compliance with this NOI and all other NOI's currently under consideration, Union Camp total annual costs should decrease.

B. *Consistency with the purposes of ESECA.* Because of the issuance of a Prohibition Order to Savannah 10 will discourage the use of natural gas or petroleum products and encourage the increased use of coal, FEA proposes to conclude that this action would be consistent with the purpose of ESECA to provide a means to assist in meeting the essential needs of the United States for fuels.

On the basis of the environmental analysis which FEA is required to conduct prior to issuance of a Notice of Effectiveness of a Prohibition Order, as well as the necessity for this MFBI to comply with the Clean Air Act and other applicable environmental protection requirements, FEA proposes to conclude that a Prohibition Order to Savannah 10 would be consistent with the purpose of ESECA to provide for a means to assist in meeting the essential needs of the United States for fuels in a manner which is consistent, to the fullest extent practicable, with existing national commitments to protect and improve the environment.

III. *Coal and coal transportation facilities will be available to this MFBI during the period until December 31, 1984.*

A. *Coal availability.*—1. *National coal reserves.* United States coal reserves are more than sufficient to supply national needs for the foreseeable future. U.S. Department of the Interior, Bureau of Mines (BOM) data show a demonstrated coal reserve base of over 400 billion tons, over half of which is currently technically and economically recoverable (*Demonstrated Coal Reserve Base of the United States by Sulfur Category*, on January 1, 1974, Bureau of Mines (May 1975) [hereafter "BOM Survey"]). Within these recoverable reserves approximately 200 billion tons contain 1% or less sulfur by weight. To determine when certain quantities of these reserves are expected to be available, FEA has examined several studies referenced herein, which together provide the best current evidence as to coal availability for the period ending December 31, 1984.

2. *National coal production and demand.* The comparison, stated below, of estimated national coal production, national coal demand, and the total tonnage of uncommitted planned national coal production (derived from responses to a survey of coal producing companies) shows that there should be sufficient production of coal to meet the total national demand through 1980. Beyond 1980, plans for new production are not yet fully developed because few coal producers have firm expansion plans that extend that far into the future; however, the projected total planned national coal production for 1985 already meets 99% of the total U.S. demand expected in 1985. With time, more potential mine developments will become firm plans, thus increasing the planned production.

a. *National coal production.* It is conservatively estimated that it will be practicable to produce coal nationally in at least the following quantities:

Year:	*Production potential (million tons)*
1977	732.3
1978	791.6
1979	851.4
1980	911.7
1981	960.0
1982	994.3
1983	1,017.4
1984	1,028.7
1985	1,029.6

The figures shown above are derived from FEA's Coal Mine Expansion Study (May 1976). This study demonstrates that most coal producers did not have firm or accurate plans for new capacity additions beyond 1980. The 1985 projection, therefore, tends to underestimate actual production potential.

An FEA study, Coal Availability Report, April 1977, (hereafter "Availability Report") indicates current plans for nationwide production of uncommitted coal as follows:

Year:	*Production potential (million tons)*
1978	124.3
1979	243.1
1980	293.3
1981	350.0
1982	369.9
1983	396.2
1984	475.5
1985	544.9

b. *National demand exclusive of ESECA prohibition order demand.* The estimated national demand, excluding any increased demand resulting from FEA action under the authority of Section 2(a) of ESECA, is as follows (FEA 1976 National Energy Outlook):

Year:	*Demand (million tons)*
1978	730
1979	764
1980	799
1981	842
1982	887
1983	935
1984	985
1985	1,040

c. *National ESECA prohibition order demand.* The estimated potential demand for coal resulting from this NOI, from all other Notices of Intention to issue Prohibition Orders to date and from all outstanding Prohibition Orders issued to date under authority of Section 2(a) of ESECA is no more than the following ("Availability Report"):

Year:	*Demand (million tons)*
1978	11.0
1979	22.4
1980	32.5
1981	35.8
1982	57.4
1983	59.8
1984	59.8

3. *Characteristic coal production and demand.* FEA's "Availability Report" identifies coal of specific quality characteristics available for use at this MFBI. The survey is based on data from 31 mining companies that supplied useful information on 96 mining units. Responses from these companies identified planned production of coal which is not now committed to a specific buyer. For those companies which did not respond to the survey, FEA estimated their uncommitted planned production based on their 1974 production.

a. *Characteristic coal requirements for this MFBI.* FEA's "Availability Report" has determined that a boiler, of the type used at Savannah 10 will be able to burn coal of the following characteristics and comply with all applicable air pollution control requirements.

Btu's per pound (minimum)	10,000
Moisture (percent maximum)	15
Ash (percent maximum)	20
Volatile (percent minimum)	15
Ash softening temperature (degrees fahrenheit, minimum)	2,200
Sulfur (percent maximum, approximate)	1.5

b. *Characteristic coal demand from this MFBI.* The potential demand for coal, of the type described above, which would result from this NOI is estimated to be as follows:

	Demand (thousand tons)
1980 and thereafter	137

c. *National planned production, characteristic coal.* FEA's "Availability Report" has determined that coal of the type described in paragraph A.3.a., above, is uncommitted to a specific buyer and will be potentially available to this MFBI in a nationwide market as follows:

Year:	*Production (thousand tons)*
1978	67,900
1979	127,100
1980	158,900
1981	189,300
1982	200,300
1983	214,800
1984	253,700

d. *National ESECA prohibition order demand for coal, regardless of characteristics.* The national planned production of characteristic coal, as stated in paragraph A.3.c., above, exceeds potential demand for coal regardless of characteristic expected from this NOI, from all other Notices of intention to issue Prohibition Orders to date and from all outstanding Prohibition Orders issued to date under authority of Section 2(a) of ESECA. National ESECA Prohibition Order demand as previously stated in paragraph A.2.c., above, is no more than the following ("Availability Report"):

Year:	*Demand (thousand tons)*
1978	11,032
1979	22,434
1980	32,483
1981	35,755
1982	57,362
1983	59,815
1984	59,815

e. *Regional planned production, characteristic coal.* Coal with the characteristics described in paragraph A.3.a., above, is uncommitted and will be potentially available to this MFBI (in a probable regional supply/demand relationship related to the location of this MFBI) from BOM Districts 7, 8 and 13 as follows ("Availability Report"):

Year:	*Production (thousand tons)*
1978	26,032
1979	47,383
1980	53,062
1981	61,661
1982	65,354
1983	70,552
1984	80,964

f. *Regional ESECA prohibition order demand for coal, regardless of characteristic.* The expected regional production of characteristic coal, as stated in paragraph A.3.e., above, exceeds the potential demand for coal regardless of characteristic from BOM Districts 7, 8 and 13 expected to result from this NOI, from all other Notices of Intention to issue Prohibition Orders to date and from all outstanding Prohibition Orders issued to date under authority of Section 2(a) of ESECA. This potential regional demand is estimated in FEA's "Availability Report" to be no more than the following:

Year:	Demand (thousand tons)
1978	5,266
1979	9,149
1980	16,321
1981	18,005
1982	23,682
1983	24,095
1984	24,096

g. *Regional ESECA prohibition order demand for coal by sulfur characteristic.* The potential regional demand for coal from BOM Districts 7, 8 and 13 with a 1.41–1.8% sulfur content (which includes the 1.5% maximum sulfur content described in paragraph A.3.a., above) resulting from this NOI, from all other Notices of Intention to issue Prohibition Orders to date and from all outstanding Prohibition Orders issued to date under the authority of Section 2(a) of ESECA is estimated in FEA's "Availability Report" to be no more than the following:

Year:	Demand (thousand tons) percent sulfur, 1.41–1.8
1976	226
1979	1,773
1980	1,773
1981	1,773
1982	1,773
1983	1,773
1984	1,773

The regional planned production of coal stated in paragraph A.3.c., above, with the characteristics described in paragraph A.3.a., above, far exceeds this potential ESECA regional demand for coal by sulfur characteristic.

4. *State or local laws.* FEA has found no state or local laws or policies limiting the extraction or utilization of coal that would adversely affect these production figures, and none have been brought to FEA's attention.

5. *Conclusion.* FEA's "Availability Report" has identified nationally and in BOM Districts 7, 8 and 13 uncommitted coal production that meets the requirements of Savannah 10 as described in paragraph A.3.a., above. FEA proposes to find that this uncommitted coal exists in amounts sufficient in any year to meet the estimated additional demand for coal, both nationally and from these Districts, resulting from this NOI, from all other Notices of Intention to issue Prohibition Orders to date and from all outstanding Prohibition Orders issued to date under authority of Section 2(a) of ESECA.

Coal for this MFBI will probably be bought from producers according to regional supply/demand relationships related to the MFBI's location from BOM Districts 7, 8 and 13. FEA observes, however, that the MFBI could purchase coal in other markets as such production becomes available. (*The Feasibility of Considering Expanded Use of Western Coal by Midwestern and Eastern Utilities in the Period 1978 and Beyond*, School of Engineering, University of Pennsylvania, November 7, 1975.)

B. *Coal transportation.*—1. *Location of MFBI and coal supply.* Based on an FEA study, *Coal Transportation Availability Report*, April 1977, (hereafter "Transportation Availability Report"), coal for Savannah 10 would probably come from BOM District 8 as a primary source and from BOM District 6 as an alternate source. While these supply areas are the nearest available potential sources able to supply complying coal to this MFBI, complying coal can be transferred by rail from other identified sources within the United States as well. The analysis of transportation availability is based on the most likely route as well as two alternate routes. These routes were chosen to demonstrate transportation availability.

2. *Route of coal shipment.* The primary route for coal delivery for Savannah 10 originates in BOM District 8 in the Corbin, Kentucky area on the Louisville and Nashville (L&N). The L&N would move it via Knoxville, Tennessee to Atlanta, Georgia where Southern Railway Co. would then deliver it to Savannah 10 via Macon and Midville, Georgia. The total rail distance is about 575 miles.

The alternate route for coal delivery from the primary supply area originates in BOM District 8 in the St. Paul Kentucky area on the L&N. The L&N would route it on its affiliate, Clinchfield Line, to Spartanburg, South Carolina, where Seaboard Coast Line (SCL) would pick up and deliver the coal to Savannah 10. The total rail distance is about 490 miles.

An alternate route from the alternate supply area originates in BOM District 6 in the Devon, West Virginia area on the Norfolk and Western (N&W). The N&W would move the coal to Martinsville, West Virginia and on to Winston-Salem, North Carolina where Southern would pick up and deliver the coal to Savannah 10. The total rail distance is approximately 638 miles.

3. *Originating trunk carrier.* The L&N, the originating carrier of coal for Savannah 10, has over 34,000 hopper cars in service and has been increasing this number by about 2,000 cars per year. Using an average number of 20 deliveries per year per 75-ton car, the L&N may need as many as 117 additional cars to handle the increased demand from Savannah 10. This estimate assumes that the railroad would neither have access originating capacity nor obtain cars from other carriers in the originating vicinity.

FEA's "Transportation Availability Report" concluded that for all potential Prohibition Order candidates studied, there would be no major constraints in transporting coal. This study examined existing rail transportation car capacity, water transportation capacity, including unloading docks, where applicable, and took into account projections made by all carriers to meet the anticipated demand for all types of transportation facilities assuming all MFBI's studied were to receive orders under Section 2(a) of ESECA.

FEA has not found nor has it been informed of any apparent constraints to carrying coal for any alternate or intermediate carriers should they be used.

4. *Destination carrier and MFBI facilities.* Savannah 10 has indicated that no coal has been used in the past, but in case of conversion to coal, Seaboard Coast Line and Souther could deliver coal to the plant.

There are no other obstacles to the delivery of coal to Savannah 10.

5. *Conclusion.* Coal transportation facilities will be available for the period a Prohibition Order is expected to be in effect since no major constraints to coal delivery over the primary route to Savannah 10 presently exist, and alternate routes are available.

Appendix—Proposed Findings and Rationale for Notice of Intention To Issue a Prohibition Order

ESECA and the FEA regulations require FEA to make certain findings before issuing a Prohibition Order to a major fuel burning installation (MFBI). FEA's proposed findings are set out below with respect to the MFBI's named below. Supporting rationale and conclusions are also set forth.

Docket No.	Owner	Installation	Unit No.	Location
OCU-0051	Scott Paper Co.	Mobile plant	4,6	Mobile, Ala.

These findings, which are now proposed by FEA, are based on the information that has been provided to and developed by FEA prior to the issuance of this Notice of Intention (NOI) to issue a Prohibition Order.

Scott Paper Company shall be referred to as the "owner" and as "Scott Paper". Mobile Plant units 4 and 6 shall be referred to as the "MFBI's" and as "Mobile 4 and 6".

I. *Capability and necessary plant equipment to burn coal.* FEA proposes to find that on June 22, 1974, Mobile 4 and 6 had the capability and necessary plant equipment to burn coal. This proposed finding is based on the facts and interpretations stated below:

A. Scott Paper, in a Major Fuel Burning Installation Coal Conversion Report, Section II, Questions 6, and 12–14, (Form FEA C–602–S–0), filed on May 8, 1975, indicated that each MFBI had in place on June 22, 1974, a boiler that was capable of burning coal. The boilers had been designed and constructed or modified to burn coal as their primary energy source, notwithstanding the fact that on June 22, 1974, the MFBI's may not have been burning coal as their primary energy source.

B. Based on information Scott Paper filed with FEA dated March 18, 1977, and other information available to FEA, the following plant equipment and facilities at Mobile 4 and 6 would have to be acquired or refurbished in order for these MFBI's to burn coal as their primary energy source:

1. Unloaders; 2. Conveyors; 3. Crushers; 4. Pulverizers; 5. Air heaters; 6. Combustors; 7. Soot blowers; 8. Instruments and controls; 9. Ash handling equipment; 10. Storage bunkers; 11. Scales; 12. Feeders; 13. Storage property.

C. FEA proposes to find that on June 22, 1974, Mobile 4 and 6 had all other significant plant equipment and facilities associated with the burning of coal.

D. Within the meaning of ESECA and the regulations promulgated pursuant thereto, the equipment and facilities listed above, do not individually or in combination constitute a lack of capability and necessary plant equipment to burn coal, as of June 22, 1974.

II. *The burning of coal in lieu of natural gas and petroleum products is practicable and consistent with the purposes of ESECA.* FEA proposes to find that the burning of coal in lieu of petroleum products or natural gas at Mobile 4 and 6 is practicable and consistent with the purposes of ESECA. This proposed finding is based upon an analysis by FEA of the fuel consumption of these boilers for the period 1973–1976, the remaining useful service life of each boiler after conversion, the net operating cost differential that would result from compliance with a Prohibition Order, as well as the facts and interpretations referenced below:

A. *The burning of coal is practicable.*—1. *Anticipated fuel supplies—Curtailment of natural gas supply.* Based on information obtained from the Federal Power Commission, the natural gas supplier, and in certain cases the owner, FEA presumes that these MFBI's will experience a substantial curtailment of their present supply of natural gas. This curtailment will result in in-

creased reliance on alternate fuels in the future.

2. *Costs associated with burning coal.*—a. *Capital investment costs.* The total estimated initial capital investment costs, including financing costs, that would result from the acquisition and refurbishment of equipment and facilities associated with the burning of coal at Mobile 4 and 6 have been determined.

This determination was based on existing FEA information and analysis as well as information filed with FEA by the owner. Approximate costs to comply with applicable environmental protection requirements have also been considered, including the cost of compliance with the air pollution control requirements of the Clean Air Act.

b. *Annual operating and maintenance costs.* The expected increase in operating and maintenance costs, exclusive of fuel costs, that would result from the burning of coal has been calculated based on information supplied by the owner or otherwise acquired by FEA.

c. *Fuel costs.* Based on an analysis of annual fuel consumption and fuel cost information supplied by the owner and/or, in appropriate circumstances, upon FEA's fuel cost estimates, FEA has determined that the burning of coal in lieu of natural gas and petroleum products at Mobile 4 and 6 will result in a decrease in annual fuel costs.

d. *Net operating cost differential.* Based on the factors stated in paragraphs A.1. a.–c., above, as well as the expected remaining useful life of the boilers after conversion, FEA has determined that the net annual operating cost differential, hereafter "NOCD", (which represents the difference between operating the boilers with coal and alternate fuels as their primary energy source), resulting from the conversion of Mobile 4 and 6, will represent an annual cost increase of $144,998.

3. *Reasonableness of additional costs of burning coal.* The following analysis of the costs of conversion provides the basis for deciding that compliance with the proposed order is not unreasonable.

By converting from burning natural gas to burning coal as a primary energy source these MFBI's would experience a net annual operating cost increase, but would save a substantial amount of natural gas. This cost would be incurred for a limited period because these MFBI's will eventually experience a substantial curtailment of their supply of natural gas. If the prohibition order were not issued to these MFBI's they could alternately replace their current natural gas supply with either petroleum products or coal for the period following such substantial curtailment of their natural gas supply.

In the calculation of the NOCD, FEA has considered oil as a substitute fuel for curtailed natural gas. In calculating the NOCD, in those instances where the MFBI has experienced no curtailment of its natural gas supply, FEA considered the present fuel usage. The net annual operating cost increase for these MFBI's resulting from operating on coal as their primary energy source, instead of petroleum products (and/or natural gas where applicable), will be approximately $144,998.

Although the use of the coal alternative, instead of potential petroleum products, could be expected to result in a net annual operating cost increase, FEA has determined that the prohibition of burning natural gas or petroleum products as the primary energy source at Mobile 4 and 6 is not unreasonable.

Burning of coal by these MFBI's as their primary energy source instead of petroleum products would result in additional capital investment costs and annual operating and maintenance costs exclusive of fuel costs. Any additional conversion costs would, however, be mitigated by the savings in fuel costs inherent in burning coal. Notwithstanding the fact that these MFBI's could experience annual savings in their total fuel costs should they convert to coal instead of converting to petroleum products, there would be a net increase in the costs to these MFBI's.

Although conversion to the burning of coal instead of petroleum products would be expected to increase the costs incurred by Mobile 4 and 6 by $144,998 per year, FEA proposes to find that such increased cost, per barrel of oil saved is not unreasonable given the purposes of ESECA. This determination is based on consideration of the substantial potential oil savings that would result from conversion to coal. The determination that the costs of burning coal instead of petroleum products would not be unreasonable is further supported by consideration of such costs in relation to the expected remaining useful life of these MFBI's, the size and resources of the owner as examined in the following discussion of financial capability, and the nature of the expected operations of these MFBI's.

The additional costs that would be incurred if FEA were to prohibit the burning of natural gas or petroleum products as the primary energy source at Mobile 4 and 6 would only be incurred for a limited period of time. In view of the scarcity of national supplies of natural gas and the likelihood that Mobile 4 and 6 will experience a substantial curtailment of their present natural gas supply in the future, FEA has determined that the cost of burning coal in lieu of natural gas is not unreasonable. (Final Report Oil and Gas Resources, Reserves, and Productive Capacities Volumes I and II, Federal Energy Administration, October 1975).

4. *Financial capability of the owner.*—a. *Recovery of capital investment.* FEA proposes to find that compliance with a Prohibition Order by Mobile 4 and 6 would be economically feasible. FEA's analysis took into consideration the financial capability of the owner and is based upon the owner's financial position as reported in the Dun and Bradstreet Reference Book (March 1977). Where necessary, FEA performed an independent analysis of the owner's financial capability, considering such factors as the owner's current financial statement and the additional capital investment required for the owner to comply with this NOI and all other NOI's which are currently under consideration, as well as additional capital investment costs related to all other Notices of Intention, to date, if any, to issue Prohibition or Construction Orders, and from all outstanding Prohibition or Construction Orders, if any, issued to date under authority of Section 2 (a) and (c) of ESECA to MFBI's owned by Scott Paper. FEA related these additional capital investment costs to the total capitalization of Scott Paper and the remaining useful life after conversion of Mobile 4 and 6.

FEA does not consider the effect of the added capital investment costs to represent an unreasonable burden given the financial capabilities of Scott Paper to assume such costs.

b. *Total annual costs associated with conversion.* The total estimated annual increase in costs (amortized increased capital investment costs and other costs, exclusive of fuel costs) associated with the burning of coal as opposed to oil and natural gas attributable to compliance with this NOI and all other NOI's which are currently under consideration has been determined. FEA also took into consideration total annual costs resulting from compliance with all other Notices of Intention, to date, if any, to issue Prohibition or Construtcion Orders, and from all outsanding Prohibitoin or Construction Orders, if any, issued to date under authority of Section 2 (a) and (c) of ESECA to Scott Paper MFBI's.

Notwithstanding the potential offsetting aggregate value of fuel cost savings attributable to compliance with this NOI, and all other NOI's currently under consideration, Scott Paper's total annual costs after conversion will increase by $622,998.

B. *Consistency with the purposes of ESECA.* Because the issuance of a Prohibition Order to Mobile 4 and 6 will discourage the use of natural gas or petroleum products and encourage the increased use of coal, FEA proposes to conclude that this action would be consistent with the purpose of ESECA to provide a means to assist in meeting the essential needs of the United States for fuels.

On the basis of the environmental analysis which FEA is required to conduct prior to issuance of a Notice of Effectiveness of a Prohibition Order, as well as the necessity for these MFBI's to comply with the Clean Air Act and other applicable environmental protection requirements, FEA proposes to conclude that a Prohibition Order to Mobile 4 and 6 would be consistent with the purpose of ESECA to provide for a means to assist in meeting the essential needs of the United States for fuels in a manner which is consistent, to the fullest extent practicable, with existing national commitments to protect and improve the environment.

III. *Coal and coal transportation facilities will be available to these MFBI's during the period until December 31, 1984.*—A. *Coal availability*—1. *National coal reserves.* United States coal reserves are more than sufficient to supply national needs for the foreseeable future. U.S. Department of the Interior, Bureau of Mines (BOM) data show a demonstrated coal reserve base of over 400 billion tons, over half of which is currently technically and economically recoverable (Demonstrated Coal Reserve Base of the United States, by Sulfur Category, on January 1, 1974, Bureau of Mines (May 1975) [hereafter "BOM Survey"]). Within these recoverable reserves approximately 200 billion tons contain 1% or less sulfur by weight. To determine when certain quantities of these reserves are expected to be available, FEA has examined several studies referenced herein, which together provide the best current evidence as to coal availability for the period ending December 31, 1984.

2. *National coal production and demand.* The comparison, stated below, of estimated national coal production, national coal demand, and the total tonnage or uncommitted planned national coal production (derived from responses to a survey of coal producing companies) shows that there should be sufficient production of coal to meet the total national demand through 1980. Beyond 1980, plans for new production are not yet fully developed because few coal producers have firm expansion plans that extend that far into the future; however, the projected total planned national coal production for 1985 already meets 99% of the total U.S. demand expected in 1985. With time, more potential mine developments will become firm plans, thus increasing the planned production.

a. *National coal production.* It is conservatively estimated that it will be practicable to produce coal nationally in at least the following quantities:

Year:	*Production potential (million tons)*
1977	723.3
1978	791.6
1979	851.4
1980	911.7
1981	960.0
1982	994.3
1983	1,017.4
1984	1,028.7
1985	1,029.6

The figures shown above are derived from FEA's Coal Mine Expansion Study (May 1976). This study demonstrates that most coal producers did not have firm or accurate plans for new capacity additions beyond 1980. The 1985 projection, therefore, tends to underestimate actual production potential.

An FEA study, Coal Availability Report, April 1977, (hereafter "Availability Report"), indicates current plans for nationwide production of uncommitted coal as follows:

Year:	*Production (million tons)*
1978	124.3
1979	243.1
1980	293.3
1981	350.0
1982	369.9
1983	396.2
1984	475.5
1985	544.9

b. *National demand exclusive of ESECA prohibition order demand.* The estimated national demand, excluding any increased demand resulting from FEA action under the authority of Section 2(a) of ESECA, is as follows (FEA 1976 National Energy Outlook):

Year:	*Demand (million tons)*
1978	730
1979	764
1980	799
1981	842
1982	887
1983	935
1984	985
1985	1,040

c. *National ESECA prohibition order demand.* The estimated potential demand for coal resulting from this NOI, from all other Notices of Intention to issue Prohibition Orders to date and from all outstanding Prohibition Orders issued to date under authority of Section 2(a) of ESECA is no more than the following ("Availability Report"):

Year:	*Demand (million tons)*
1978	11.0
1979	23.4
1980	32.5
1981	35.6
1982	57.4
1983	59.8
1984	59.8

3. *Characteristic coal production and demand.* FEA's "Availability Report" identifies coal of specific quality characteristics available for use at these MFBI's. The survey is based on data from 31 mining companies that supplied useful information on 96 mining units. Responses from these companies identified planned production of coal which is not now committed to a specific buyer. For those companies which did not respond to the survey, FEA estimated their uncommitted planned production based on their 1974 production.

a. *Characteristic coal requirements for these MFBI's.* FEA's "Availability Report" has determined that boilers of the type used at Mobile 4 and 6 will be able to burn coal of the following characteristics and comply with all applicable air pollution control requirements:

Btu's/lb	[1] 10,000
Moisture (percent)	[2] 15
Ash (percent)	[2] 20
Volatile (percent)	[2] 15
Ash softening temperature (°F)	[1] 2,200
Sulfur (approximately) (percent)	[2] 0.9

[1] Minimum.
[2] Maximum.

b. *Characteristic coal demand from these MFBI's.* The potential demand for coal, of the type described above, which would result from this NOI is estimated to be as follows:

Year:	*Demand (thousand tons)*
1980 and thereafter	107

c. *National planned production, characteristic coal.* FEA's "Availability Report" has determined that coal of the type described in paragraph A.3.a., above, is uncommitted to a specific buyer and will be potentially available to these MFBI's in a nationwide market as follows:

Year:	*Production (thousand tons)*
1978	54,090
1979	97,325
1980	124,328
1981	149,252
1982	158,268
1983	170,320
1984	201,207

d. *National ESECA prohibition order demand for coal, regardless of characteristics.* The national planned production of characteristic coal, as stated in paragraph A.3.c., above, exceeds potential demand for coal regardless of characteristic expected from this NOI, from all other Notices of Intention to issue Prohibition Orders to date and from all outstanding Prohibition Orders issued to date under authority of Section 2(a) of ESECA. National ESECA Prohibition Order demand as previously stated in paragraph A.2.c., above, is no more than the following ("Availability Report"):

Year:	*Demand (thousand tons)*
1978	11,302
1979	22,434
1980	32,463
1981	35,755
1982	57,362
1983	59,815
1984	59,815

e. *Regional planned production, characteristic coal.* Coal with the characteristics described in paragraph A.3.a., above, is uncommitted and will be potentially available to these MFBI's (in a probable regional supply/demand relationship related to the location of these MFBI's) from BOM Districts 7, 8 and 13 as follows ("Availability Report"):

Year:	*Production (thousand tons)*
1978	19,952
1979	33,160
1980	37,779
1981	44,246
1982	47,145
1983	51,293
1984	58,891

f. *Regional ESECA prohibition order demand for coal, regardless of characteristic.* The expected regional production of characteristic coal, as stated in paragraph A.3.e., above, exceeds the potential demand for coal regardless of characteristic from BOM Districts 7, 8 and 13 expected to result from this NOI, from all other Notices of Intention to issue Prohibition Orders to date and from all outstanding Prohibition Orders issued to date under authority of Section 2(a) of ESECA. This potential regional demand is estimated in FEA's "Availability Report" to be no more than the following:

Year:	*Demand (thousand tons)*
1978	3,268
1979	9,149
1980	16,321
1981	18,005
1982	23,682
1983	24,095
1984	24,095

g. *Regional ESECA prohibition order demand for coal by sulfur characteristic.* The potential regional demand for coal from BOM Districts 7, 8 and 13 with a 0.61 to 1.0 percent sulfur content (which includes the 0.9 percent maximum sulfur content described in paragraph A.3.a., above) resulting from this NOI, from all other Notices of Intention to issue Prohibition Orders to date and from all outstanding Prohibition Orders issued to date under authority of Section 2(a) of ESECA is estimated in FEA's "Availability Report" to be no more than the following:

Year:	*Demand (thousand tons) percent sulfur, 0.61 to 1.0*
1978	2,831
1979	5,578
1980	9,839
1981	11,028
1982	16,292
1983	16,292
1984	16,292

The regional planned production of coal stated in paragraph A.3.e., above, with the characteristics described in paragraph A.3.a., above, far exceeds this potential ESECA regional demand for coal by sulfur characteristic.

4. *State or local laws.* FEA has found no state or local laws or policies limiting the extraction or utilization of coal that would adversely affect these production figures, and none have been brought to FEA's attention.

5. *Conclusion.* FEA's "Availability Report" has identified nationally and in BOM Districts 7, 8 and 13 uncommitted coal production that meets the requirements of Mobile 4 and 6 as described in paragraph A.3.a., above. FEA proposes to find that this uncommitted coal exists in amounts sufficient in any year to meet the estimated additional demand for coal, both nationally and from these Districts, resulting from this NOI, from all other Notices of Intention to issue Prohibition Orders to date and from all outstanding Prohibition Orders issued to date under authority of Section 2(a) of ESECA.

Coal for these MFBI's will probably be bought from producers according to regional supply/demand relationships related to the MFBI's location from BOM Districts 7, 8 and 13. FEA observes, however, that the MFBI's could purchase coal in other markets as such production becomes available. (The Feasibility of Considering Expanded Use of Western Coal by Midwestern and Eastern Utilities in the Period 1978 and Beyond, School of Engineering, University of Pennsylvania, November 7, 1975.)

B. *Coal transportation.* 1. *Location of MFBI's and coal supply.* Based on an FEA study, Coal Transportation Availability Re-

port, April 1977, (hereafter "Transportation Availability Report"), coal for Mobile 4 and 6 would probably come from BOM District 8 as the primary supply area and from BOM District 13 as the alternate supply area. While these supply regions are among the nearest available sources able to supply complying coal to the plant, complying coal could be transferred by rail from other identified sources within the United States as well. The analysis of transportation availability is based on the most likely route as well as two alternate routes. These routes were chosen to demonstrate transportation availability.

2. *Route of coal shipment.* The primary route for coal delivery for Mobile 4 and 6 originates coal in BOM District 8 near Madisonville, Kentucky on the Louisville and Nashville (L&N) Railroad. The L&N would move the coal via Nashville, Tennessee to Birmingham, Alabama. The Southern Railway would pick it up and move it to Mobile 4 and 6 via Tuscaloosa, Baligee and Kimbrough, Alabama. The total rail distance is about 595 miles.

The alternate route for coal delivery from the primary source originates coal in BOM District 8 in the Somerset, Kentucky area on the Southern Railway. The Southern Railway would move it via Chattanooga, Tennessee and Birmingham, Alabama to Mobile 4 and 6. The total rail distance is approximately 619 miles.

An alternate route from the alternate supply area is to originate coal in BOM District 13 in the Tuscaloosa, Alabama area on the L&N. The L&N would take it to Mobile 4 and 6 via Parkwood and Montgomery, Alabama. The total rail distance is about 313 miles.

3. *Originating trunk carrier.* The L&N, the originating carrier of coal for Mobile 4 and 6 has over 34,000 hopper cars in service and has been increasing this number by about 2,000 cars per year. Using a average number of 20 deliveries per year per 75-ton car, the L&N may need as many as 74 additional cars to handle the increased demand from Mobile 4 and 6. This estimate assumes that the railroad would neither have excess originating capacity nor obtain cars from other carriers in the originating vicinity.

FEA's "Transportation Availability Report" concluded that for all potential Prohibition Order candidates studied, there would be no major constraints in transporting coal. This study examined existing rail transportation car capacity, water transportation capacity, including unloading docks, where applicable, and took into account projections made by all carriers to meet the anticipated demand for all types of transportation facilities assuming all MFBI's studied were to receive orders under Section 2(a) of ESECA.

FEA has not found nor has it been informed of any apparent constraints to carrying coal for any alternate or intermediate carriers should they be used.

4. *Destination carrier and MFBI facilities.* Mobile 4 and 6 have never used coal before and coal storage or coal unloading facilities do not currently exist. It is expected that these installations can be accomplished prior to the effective date for coal burning.

There are no other obstacles to the delivery of coal to Mobile 4 and 6.

5. *Conclusion.* Coal transportation facilities will be available for the period a Prohibition Order is expected to be in effect since no major constraints to coal delivery over the primary route to Mobile 4 and 6 presently exist, and alternate routes are available.

APPENDIX—PROPOSED FINDINGS AND RATIONALE FOR NOTICE OF INTENTION TO ISSUE A PROHIBITION ORDER

ESECA and the FEA regulations require FEA to make certain findings before issuing a Prohibition Order to a major fuel burning installation (MFBI). FEA's proposed findings are set out below with respect to the MFBI named below. Supporting rationale and conclusions are also set forth.

Docket No.	Owner	Installation	Unit No.	Location
OCU-0778	International Paper Co.	Vicksburg plant	1	Vicksburg, Miss.

These findings, which are now proposed by FEA, are based on the information that has been provided to and developed by FEA prior to the issuance of this Notice of Intention (NOI) to issue a Prohibition Order.

International Paper Company shall be referred to as the "owner" and as "International". The Vicksburg Plant Unit 1 shall be referred to as the "MFBI" and as "Vicksburg 1".

I. *Capability and necessary plant equipment to burn coal.*

FEA proposes to find that on June 22, 1974, Vicksburg 1 had the capability and necessary plant equipment to burn coal. This proposed finding is based on the facts and interpretations stated below:

A. International, in a Major Fuel Burning Installation Coal Conversion Report, Section II, Questions 6, and 12–14, (Form FEA C–602–S–0), filed on May 20, 1975, indicated that the MFBI had in place on June 22, 1974, a boiler that was capable of burning coal. The boiler had been designed and constructed or modified to burn coal as its primary energy source, notwithstanding the fact that on June 22, 1974, the MFBI may not have been burning coal as its primary energy source.

B. Based on information International filed with FEA dated August 11, 1976, and other information available to FEA, the following plant equipment and facilities at Vicksburg 1 would have to be acquired or refurbished in order for this MFBI to burn coal as its primary energy source:

1. Combustors.
2. Air heaters.
3. Soot blowers.
4. Special instrumentation and controls.
5. Crushers.
6. Pulverizers.
7. Scales.
8. Feeders.
9. Ash handling equipment.
10. Unloaders.
11. Conveyors.

C. FEA proposes to find that on June 22, 1974, Vicksburg 1 had all other significant plant equipment and facilities associated with the burning of coal.

D. Within the meaning of ESECA and the regulations promulgated pursuant thereto, the equipment and facilities listed in paragraph B, above, do not individually or in combination constitute a lack of capability and necessary plant equipment to burn coal as of June 22, 1974.

II. *The burning of coal in lieu of natural gas or petroleum products is practicable and consistent with the purposes of ESECA.*

FEA proposes to find that the burning of coal in lieu of petroleum products or natural gas at Vicksburg 1 is practicable and consistent with the purposes of ESECA. This proposed finding is based upon an analysis by FEA of the fuel consumption of this boiler for the period 1973–75, the remaining useful service life of the boiler after conversion, the net operating cost differential that would result from compliance with a Prohibition Order, as well as the facts and interpretations referenced below:

A. *The burning of coal is practicable.* 1. *Anticipated fuel supplies. Curtailment of natural gas supply.* Based on information obtained from the Federal Power Commission, the natural gas supplier, and in certain cases the owner, FEA presumes that the MFBI will experience a substantial curtailment of its present supply of natural gas. This curtailment will result in increased reliance on alternate fuels in the future.

2. *Costs associated with burning coal.* a. *Capital investment costs.* The total estimated initial capital investment costs, including financing costs, that would result from the acquisition and refurbishment of equipment and facilities associated with the burning of coal at Vicksburg 1 have been determined.

This determination was based on existing FEA information and analysis as well as information filed with FEA by the owner. Approximate costs to comply with applicable environmental protection requirements have also been considered, including the cost of compliance with the air pollution control requirements of the Clean Air Act.

b. *Annual operating and maintenance costs.* The expected increase in operating and maintenance costs, exclusive of fuel costs, that would result from the burning of coal has been calculated based on information supplied by the owner or otherwise acquired by FEA.

c. *Fuel costs.* Based on an analysis of annual fuel consumption and fuel cost information supplied by the owner and/or, in appropriate circumstances, upon FEA's fuel cost estimates, FEA has determined that the burning of coal in lieu of natual gas or petroleum products at Vicksburg 1 will result in a decrease in annual fuel costs.

d. *Net operating cost differential.* Based on the facts stated in paragraphs A.1.a.–c, above, as well as the expected remaining useful life of the boiler after conversion, FEA has determined that the net annual operating cost differential, hereafter "NOCD" (which represents the difference between operating the boiler with coal and alternate fuel(s) as its primary energy source), resulting from the conversion of Vicksburg 1, will represent an annual savings.

3. *Reasonableness of additional costs of burning coal.* The following analysis of the costs of conversion provides the basis for deciding that compliance with the proposed order is not unreasonable.

By converting from burning natural gas to burning coal as the primary energy source the MFBI would experience a net annual operating cost increase, but would save a substantial amount of natural gas. This cost would only be incurred for a limited period because the MFBI will eventually experience a substantial curtailment of its supply of natural gas. If the prohibition order were not issued to the MFBI it could alternately re-

place its current natural gas supply with either petroleum products or coal for the period following such substantial curtailment of its natural gas supply.

In the calculation of the NOCD, FEA has considered oil as a substitute fuel for curtailed natural gas. In calculating the NOCD in those instances where the MFBI has experienced no curtailment of its natural gas supply, FEA considered the present fuel usage. The net annual operating cost differential for this MFBI resulting from operating on coal as the primary energy source, instead of petroleum products (and/or natural gas where applicable), will represent an annual savings.

Since the use of the coal alternative, instead of petroleum products, could be expected to result in a net cost savings, FEA has determined that the prohibition against burning natural gas or petroleum products as the primary energy source at this MFBI is not unreasonable.

The additional costs that would be incurred from prohibiting the burning of natural gas as the primary energy source at this MFBI would only be incurred for a limited period of time. In view of the scarcity of national supplies of natural gas and the likelihood that Vicksburg 1 will experience a substantial curtailment of its present supply of natural gas in the future, FEA has determined that the cost of burning coal in lieu of natural gas is not unreasonable. (Final Report Oil and Gas Resources, Reserves, and Productive Capacities Volumes I and II, Federal Energy Administration, October 1975.) This determination is further supported by consideration of the savings that would result from the burning of coal in lieu of potential alternate petroleum products for the period after which the natural gas supply to Vicksburg 1 would be substantially curtailed.

4. *Financial capability of the owner.*—a. *Recovery of capital investment.* FEA proposes to find that compliance with a Prohibition Order by Vicksburg 1 would be economically feasible. FEA's analysis took into consideration the financial capability of the owner and is based upon the owner's financial position as reported in the Dun and Bradstreet Reference Book (March 1977). Where necessary, FEA performed an independent analysis of the owner's financial capability, considering such factors as the owner's current financial statement and the additional capital investment required for the owner to comply with this NOI and all other NOI's which are currently under consideration, as well as additional capital investment costs related to all other Notices of Intention, to date, if any, to issue Prohibition or Construction Orders, and from all outstanding Prohibition or Construction Orders, if any, issued to date under authority of Section 2(a) and (c) of ESECA to MFBI's owned by International. FEA related these additional capital investment costs to the total capitalization of International and the remaining useful life after conversion of Vicksburg 1.

FEA does not consider the effect of the added capital investment costs to represent an unreasonable burden given the financial capabilities of International to assume such costs.

b. *Total annual costs associated with conversion.* The total estimated annual increase in costs (amortized increased capital investment costs and other costs, exclusive of fuel costs) associated with the burning of coal as opposed to natural gas attributable to compliance with this NOI and all other NOI's which are currently under consideration has been determined. FEA also took into consideration total annual costs resulting from compliance with all other Notices of Intention, to date, if any, to issue Prohibition or Construction Orders, and from all outstanding Prohibition or Construction Orders, if any issued to date under authority of Section 2 (a) and (c) of ESECA to International MFBI's.

Notwithstanding the potential offsetting aggregate value of fuel cost savings attributable to compliance with this NOI and all other NOI's currently under consideration, International's total annual costs after conversion will increase by $738,345.

B. *Consistence with the purposes of ESECA.* Because the issuance of a Prohibition Order to Vicksburg 1 will discourage the use of natural gas and encourage the increased use of coal, FEA proposes to conclude that this action would be consistent with the purpose of ESECA to provide a means to assist in meeting the essential needs of the United States for fuels.

On the basis of the environmental analysis which FEA is required to conduct prior to issuance of a Notice of Effectiveness of a Prohibition Order, as well as the necessity for this MFBI to comply with the Clean Air Act and other applicable environmental protection requirements. FEA proposes to conclude that a Prohibition Order to Vicksburg 1 would be consistent with the purpose of ESECA to provide for a means to assist in meeting the essential needs of the United States for fuels in a manner which is consistent, to the fullest extent practicable, with existing national commitments to protect and improve the environment.

III. *Coal and coal transportation facilities will be available to this MFBI during the period until December 31 1984.*—A. *Coal availability.*—1. *National coal reserves.* United States coal reserves are more than sufficient to supply national needs for the foreseeable future. U.S. Department of the Interior, Bureau of Mines (BOM) data show a demonstrated coal reserve base of over 400 billion tons, over half of which is currently technically and economically recoverable (Demonstrated Coal Reserve Base of the United States by Sulfur Category, on January 1, 1974, Bureau of Mines (May 1975) [hereafter "BOM"]). Within these recoverable reserves approximately 200 billion tons contain 1% or less sulfur by weight. To determine when certain quantities of these reserves are expected to be available, FEA has examined several studies referenced herein, which together provide the best current evidence as to coal availability for the period ending December 31, 1984.

2. *National coal production and demand.* The comparison, stated below, of estimated national coal production, national coal demand, and the total tonnage of uncommitted planned national coal production (derived from responses to a survey of coal producing companies) shows that there should be sufficient production of coal to meet the total national demand through 1980. Beyond 1980, plans for new production are not yet fully developed because few coal producers have firm expansion plans that extend that far into the future; however, the projected total planned national coal production for 1985 already meets 99% of the total U.S. demand expected in 1985. With time, more potential mine developments will become firm plans, thus increasing the planned production.

a. *National coal production.* It is conservatively estimated that it will be practicable to produce coal nationally in at least the following quantities:

Year:	*Production Potential (million tons)*
1977	732.3
1978	791.6
1979	851.4
1980	911.7
1981	960.0
1982	994.3
1983	1,017.4
1984	1,028.7
1985	1,029.6

The figures shown above are derived from FEA's Coal Mine Expansion Study (May 1976). This study demonstrates that most coal producers did not have firm or accurate plans for new capacity additions beyond 1980. The 1985 projection, therefore, tends to underestimate actual production potential.

An FEA study, Coal Availability Report, April 1977, (hereafter "Availability Report"), indicates current plans for nationwide production of uncommitted coal as follows:

Year:	*Production (million tons)*
1978	124.3
1979	243.1
1980	293.3
1981	350.0
1982	369.9
1983	369.2
1984	475.5
1985	544.9

b. *National demand exclusive of ESECA prohibition order demand.* The estimated national demand, excluding any increased demand resulting from FEA action under the authority of Section 2(a) of ESECA, is as follows (FEA 1976 National Energy Outlook):

Year:	*Demand (million tons)*
1978	730
1979	764
1980	799
1981	842
1982	887
1983	935
1984	985
1985	1,040

c. *National ESECA prohibition order demand.* The estimated potential demand for coal resulting from this NOI, from all other Notices of Intention to issue Prohibition Orders to date and from all outstanding Prohibition Orders issued to date under authority of Section 2(a) of ESECA is no more than the following ("Availability Report"):

Year:	*Demand (million tons)*
1978	11.0
1979	22.4
1980	32.5
1981	35.8
1982	57.4
1983	59.8
1984	59.8

3. *Characteristic coal production and demand.* FEA's "Availability Report" identifies coal of specific quality characteristics available for use at this MFBI. The survey is based on data from 31 mining companies that supplied useful information on 96 mining units. Responses from these companies identified planned production of coal which is not now committed to a specific buyer. For those companies which did not respond to the survey, FEA estimated their uncommitted planned production based on their 1974 production.

a. *Characteristic coal requirements for this MFBI.* FEA's "Availability Report" has determined that a boiler of the type used at Vicksburg 1 will be able to burn coal of the following characteristics and comply with all applicable air pollution control requirements.

Btu's/lb	[1] 10,000
Moisture (percent)	[2] 15
Ash (percent)	[2] 20
Volatile (percent)	[1] 15
Ash softening temp. (°F)	[1] 2,200
Sulfur (percent) (approx.)	[2] 0.7

[1] Minimum.
[2] Maximum.

b. *Characteristic coal demand from this MFBI.* The potential demand for coal, of the type described above, which would result from this NOI is estimated to be as follows:

Year:	Demand (thousand tons)
1979 and thereafter	117

c. *National planned production, characteristic coal.* FEA's "Availability Report" has determined that coal of the type described in paragraph A.3.a., above, is uncommitted to a specific buyer and will be potentially available to this MFBI in a nationwide market as follows:

Year:	Production (thousand tons)
1978	54,090
1979	97,325
1980	124,328
1981	149,252
1982	158,268
1983	170,320
1984	201,207

d. *National ESECA prohibition order demand for coal, regardless of characteristics.* The national planned production of characteristics coal, as stated in paragraph A.3.c., above, exceeds potential demand for coal regardless of characteristic expected from this NOI, from all other Notices of Intention to issue Prohibition Orders to date and from all outstanding Prohibition Orders issued to date under authority of Section 2(a) of ESECA. National ESECA Prohibition Order demand as previously stated in paragraph A.2.c., above, is no more than the following ("Availability Report"):

Year:	Demand (thousand tons)
1978	11,032
1979	22,434
1980	32,483
1981	35,755
1982	57,362
1983	59,815
1984	59,815

e. *Regional planned production, characteristic coal.* Coal with the characteristics described in paragraph A.3.a., above, is uncommitted and will be potentially available to this MFBI (in a probable regional supply/demand relationship related to the location of this MFBI) from BOM Districts 7, 8, and 13 as follows ("Availability Report"):

Year:	Production (thousand tons)
1978	19,952
1979	33,160
1980	37,779
1981	44,246
1982	47,145
1983	51,293
1984	58,891

f. *Regional ESECA prohibition order demand for coal, regardless of characteristic.* The expected regional production of characteristic coal, as stated in paragraph A.3.c., above, exceeds the potential demand for coal regardless of characteristic from BOM Districts 7, 8 and 13 expected to result from this NOI, from all other Notices of Intention to issue Prohibition Orders to date and from all outstanding Prohibition Orders issued to date under authority of Section 2(a) of ESECA. This potential regional demand is estimated in FEA's "Availability Report" to be no more than the following:

Year:	Demand (thousand tons)
1978	3,268
1979	9,149
1980	16,321
1981	18,771
1982	23,682
1983	24,095
1984	24,095

g. *Regional ESECA prohibition order demand for coal by sulfur characteristic.* The potential regional demand for coal from BOM Districts 7, 8 and 13 with a 0.61–1.0 percent sulfur content (which includes the 0.7 percent maximum sulfur content described in paragraph A.3.a., above) resulting from this NOI, from all other Notices of Intention to issue Prohibition Orders to date and from all outstanding Prohibition Orders issued to date under the authority of Section 2(a) of ESECA is estimated in FEA's "Availability Report" to be no more than the following:

Year:	Demand (thousand tons) percent sulfur 0.61 to 1.0
1978	2,831
1979	5,578
1980	9,839
1981	11,028
1982	16,292
1983	16,292
1984	16,292

The regional planned production of coal stated in paragraph A.3.c., above, with the characteristics, described in paragraph A.3.a., above, far exceeds this potential ESECA regional demand for coal by sulfur characteristic.

4. *State or local laws.* FEA has found no state or local laws or policies limiting the extraction or utilization of coal that would adversely affect these production figures, and none have been brought to FEA's attention.

5. *Conclusion.* FEA's "Availability Study" has identified nationally and in BOM Districts 7, 8 and 13 uncommitted coal production that meets the requirements of Vicksburg 1 as described in paragraph A.3.a., above. FEA proposes to find that this uncommitted coal exists in amounts sufficient in any year to meet the estimated additional demand for coal, both nationally and from these Districts, resulting from this NOI, from all other Notices of Intention to issue Prohibition Orders to date and from all outstanding Prohibition Orders issued to date under authority of Section 2(a) of ESECA.

Coal for this MFBI will probably be bought from producers according to regional supply/demand relationships related to the MFBI's location from BOM Districts 7, 8 and 13. FEA observes, however, that the MFBI could purchase coal in other markets as such production becomes available. (The Feasibility of Considering Expanded Use of Western Coal by Midwestern and Eastern Utilities in the Period 1978 and Beyond, School of Engineering, University of Pennsylvania, November 7, 1975.)

B. *Coal transportation.*—1. *Location of the MFBI and coal supply.* Based on an FEA study, Coal Transportation Availability Report, April 1977 (hereafter "Transportation Availability Report"), coal for Vicksburg 1 would probably come from BOM District 8 as the primary supply area and from BOM District 9 as the alternate supply area. While these supply regions are among the nearest available sources able to supply complying coal to the plant, complying coal could be transferred by rail from other identified sources within the United States as well. The analysis of transportation availability is based on the most likely route as well as two alternate routes. These routes were chosen to demonstrate transportation availability.

2. *Route of coal shipment.* The primary route for coal delivery to Vicksburg 1 originates in BOM District 8 on the Louisville and Nashville (L&N) north of Knoxville, Tennessee. The L&N would move the coal to Memphis, Tennessee, where the Illinois Central Gulf (ICG) picks it up for delivery to Vicksburg 1. The total rail distance is about 655 miles.

The alternate route from the primary supply area originates northwest of Knoxville, Tennessee, on the Southern Railway (SOU). The SOU would move the coal via Chattanooga, Tennessee, and Birmingham, Alabama, to Meridian, Mississippi, where the ICG would then pick up the coal for delivery to Vicksburg 1. The total rail distance is about 555 miles.

An alternate route for coal delivery from the alternate supply area would originate coal in BOM District 9 in Western Kentucky with barges of the Ohio River Company or the Crounse Corporation barging the coal on the Green River, the Ohio River, and Mississippi River for delivery to Vicksburg 1. The total water distance is about 800 miles.

3. *Originating trunk carrier.* The L&N, originating carrier of coal for Vicksburg 1, has approximately 34,000 hopper cars in service and has been increasing this number by about 2,000 cars per year. Using an average number of deliveries of 20 per year per 75-ton car, the L&N may need as many as 90 additional cars to handle the increased demand from Vicksburg 1. This estimate assumes that the railroad would neither have excess originating capacity nor obtain cars from other carriers in the originating vicinity.

FEA's "Transportation Availability Report" concluded that for all potential Prohibition Order candidates studied, there would be no major constraints in transporting coal. This study examined existing rail transportation car capacity, water transportation capacity, including unloading docks where applicable and took into account projections made by all carriers to meet the anticipated demand for all types of transportation facilities assuming all MFBI's studied were to receive orders under Section 2(a) of ESECA.

The L&N indicated that transportation facilities at those mine sites within BOM District 8 served by the L&N are in good condition and that loading facilities are adequate to handle the required coal volumes.

FEA has not found nor has it been informed of any apparent constraints to carrying coal for any alternate or intermediate carriers should they be used.

4. *Destination carrier and MFBI facilities.* Rail delivery service to Vicksburg 1 is provided by the ICG. Vicksburg 1 has indicated that coal unloading and handling facilities would need to be added. It is expected that these installations can be accomplished prior to the effective date for coal burning.

There are no other obstacles to the delivery of coal to Vicksburg 1.

5. *Conclusion.* Coal transportation facilities will be available for the period a Prohibition Order is expected to be in effect since no major constraints to coal delivery over the primary route to Vicksburg 1 presently exist, and alternate routes are available.

Appendix—Proposed Findings and Rationale for Notice of Intention To Issue a Prohibition Order

ESECA and the FEA regulations require FEA to make certain findings before issuing a Prohibition Order to a major fuel burning installation (MFBI). FEA's proposed findings are set out below with respect to the MFBI's named below. Supporting rationale and conclusions are also set forth.

Docket No.	Owner	Installation	Unit No.	Location
OCU-0091	Continental Forest Industries, a member of the Continental Group, Inc.	Port Wentworth mill..	1, 2, 3, 4	Port Wentworth, Ga.

These findings, which are now proposed by FEA, are based on the information that has been provided to and developed by FEA prior to the issuance of this Notice of Intention (NOI) to issue a Prohibition Order.

Continental Forest Industries, a member of the Continental Group, Inc. shall be referred to as the "owner" and as "Continental". Port Wentworth Mill Units 1, 2, 3, and 4 shall be referred to as the "MFBI's" and as "Port Wentworth 1, 2, 3, and 4".

I. *Capability and necessary plant equipment to burn coal.* FEA proposes to find that on June 22, 1974, Port Wentworth 1, 2, 3, and 4 had the capability and necessary plant equipment to burn coal.

This proposed finding is based on the facts and interpretations stated below:

A. It has been indicated, either in a Major Fuel Burning Installation Coal Conversion Report, Section II, Questions 6, and 12–14 (Form FEA C–602–S–0), filed on May 20, 1975, by Continental, or by other information acquired by FEA, that each MFBI had in place on June 22, 1974, a boiler that was capable of burning coal. The boilers had been designed and constructed or modified to burn coal as their primary energy source, notwithstanding the fact that on June 22, 1974, the MFBI's may not have been burning coal as their primary energy source.

B. Based on information Continental filed with FEA dated March 4, 1977, and other information available to FEA, the following plant equipment and facilities at Port Wentworth 1, 2, 3 and 4 would have to be acquired or refurbished in order for these MFBI's to burn coal as their primary energy source:

1. Burners; 2. Conveyors; 3. Pulverizers; 4. Instrumentation and controls; 5. Ash handling equipment and ponding equipment; 6. Unloaders; 7. Scales and feeders; 8. Hoppers; 9. Air heaters; 10. Combustors.

C. FEA proposes to find that on June 22, 1974, Port Wentworth 1, 2, 3, and 4 had all other significant plant equipment and facilities associated with the burning of coal.

D. Within the meaning of ESECA and the regulations promulgated pursuant thereto, the equipment and facilities listed in paragraph B, above, do not individually or in combination constitute a lack of capability and necessary plant equipment to burn coal as of June 22, 1974.

II. *The burning of coal in lieu of natural gas or petroleum products is practicable and consistent with the purposes of ESECA.* FEA proposes to find that the burning of coal in lieu of petroleum products and natural gas at Port Wentworth 1, 2, 3, and 4 is practicable and consistent with the purposes of ESECA.

This proposed finding is based upon an analysis by FEA of the fuel consumption of these boilers for the period 1973–1975, the remaining useful service life of each boiler after conversion, the net operating cost differential that would result from compliance with a Prohibition Order, as well as the facts and interpretations referenced below:

A. *The burning of coal is practicable.* 1. *Anticipated fuel supplies—Curtailment of natural gas supply.* Based on information obtained from the Federal Power Commission, the natural gas supplier, and in certain cases the owner, FEA presumes that these MFBI's will experience a substantial curtailment of their present supply of natural gas. This curtailment will result in increased reliance on alternate fuels in the future.

2. *Costs associated with burning coal.* a. *Capital investment costs.* The total estimated initial capital investment costs, including financing costs, that would result from the acquisition and refurbishment of equipment and facilities associated with the burning of coal at Port Wentworth 1, 2, 3, and 4 have been determined.

This determination was based on existing FEA information and analysis as well as information filed with FEA by the owner. Approximate costs to comply with applicable environmental protection requirements have also been considered, including the cost of compliance with the air pollution control requirements of the Clean Air Act.

b. *Annual operating and maintenance costs.* The expected increase in operating and maintenance costs, exclusive of fuel costs, that would result from the burning of coal has been calculated based on information supplied by the owner or other wise acquired by FEA.

c. *Fuel costs.* Based on an anlysis of annual fuel consumption and fuel cost information supplied by the owner and/or, in appropriate circumstaces, upon FEA's fuel cost estimates, FEA has determined that the burning of coal in lieu of natural gas or petroleum products at Port Wenworth 1, 2, 3, and 4 will result in a decrease in annual fuel costs.

d. *Net operating cost differential.* Based on the factors stated in paragraph A.1. a.–c., above, as well as the expected remaining useful life of the boilers after conversion, FEA has determined that the net annual operating cost differential, hereafter "NOCD", (which represents the difference between operating the boilers with coal and alternate fuel(s) as their primary energy source), resulting from the conversion of Port Wentworth 1, 2, 3, and 4 will represent an annual savings.

3. *Reasonableness of additional costs of burning coal.* The following analysis of the costs of conversion provides the basis for deciding that compliance with the proposed order is not unreasonable.

By converting from burning natural gas to burning coal as their primary energy source these MFBI's would experience a net annual operating cost increase, but would save a substantial amount of natural gas. This cost would only be incurred for a limited period because these MFBI's will eventually experience a substantial curtailment of their supply of natural gas. If the prohibition order were not issued to these MFBI's they could alternately replace their current natural gas supply with either petroleum products or coal for the period following such substantial curtailment of their natural gas supply.

In the calculation of the NOCD, FEA has considered oil as a substitute fuel for curtailed natural gas. In calculating the NOCD, in those instances where the MFBI has experienced no curtailment of its natural gas supply, FEA considered the present fuel usage. The net annual operating cost differential for these MFBI's resulting from operating on coal as their primary energy source, instead of petroleum products (and/or natural gas where applicable), will represent an annual savings.

Since the use of the coal alternative, instead of petroleum products, could be expected to result in a net cost savings, FEA has determined that the prohibition against burning natural gas or petroleum products as their primary energy source at these MFBI's is not unreasonable.

The additional costs that would be incurred from prohibiting the burning of natural gas as the primary energy source at Port Wentworth 1, 2, 3, and 4 would only be incurred for a limited period of time. In view of the scarcity of national supplies of natural gas and the likelihood that Port Wentworth 1, 2, 3, and 4 will experience a subsantial curtailment of their present supply of natural gas in the future, FEA has determined that the cost of burning coal in lieu of natural gas is not unreasonable. (Final Report Oil and Gas Resources, Reserves, and Productive Capacities Volumes I and II, Federal Energy Administration, October 1975.)

This determination is further supported by consideration of the savings that would result from the burning of coal in lieu of potential alternate petroleum products for the period after which the natural gas supply to Port Wentworth 1, 2, 3, and 4 would be substantially curtailed.

4. *Financial capability of the owner.* a. *Recovery of capital investment.* FEA proposes to find that compliance with a Prohibition Order by Port Wentworth 1, 2, 3, and 4 would be economically feasible. FEA's analysis took into consideration the financial capability of the owner and is based upon the owner's financial position as reported in the Dun and Bradstreet Reference Book (March 1977). Where necessary, FEA performed an independent analysis of the owner's financial capability, considering such factors as the owner's current financial statement and the additional capital investment required for the owner to comply with this NOI and all other NOI's which are currently under consideration, as well as additional capital investment costs related to all other Notices of Intention, to date, if any, to issue Prohibition or Construction Orders, and from all outstanding Prohibition or Construction Orders, if any, issued to date under authority of Section 2 (a) and (c) of ESECA to MFBI's owned by Continental. FEA related these additional capital investment costs to the total capitalization of Continental and the remaining useful life after conversion of Port Wentworth 1, 2, 3, and 4.

FEA does not consider the effect of the added capital investment costs to represent an unreasonable burden given the financial capabilities of Continental to assume such costs.

b. *Total annual costs associated with conversion.* The total estimated annual increase in costs (amortized increased capital investment costs and other costs, exclusive of fuel costs) associated with the burning of coal as opposed to oil attributable to compliance with this NOI and all other NOI's which are currently under consideration has been determined. FEA also took into consideration total annual costs resulting from compliance with all other Notices of Intention, to date, if any, to issue Prohibition or Construction Orders, and from all outstanding Prohibition or Construction Orders, if any, issued to date under authority of Section 2 (a) and (c) of ESECA to Continental MFBI's.

However, due to the potential offsetting aggregate fuel cost savings attributable to compliance with this NOI and all other NOI's currently under consideration, Continental's total annual costs after conversion should decrease.

B. *Consistency with the purposes of ESECA.* Because the issuance of a Prohibition Order to Port Wentworth 1, 2, 6, and 4 will discourage the use of natural gas or petroleum products and encourage the increased use of coal, FEA proposes to conclude that this action would be consistent with the purpose of ESECA to provide a means to assist in meeting the essential needs of the United States for fuels.

On the basis of the environmental analysis which FEA is required to conduct prior to issuance of a Notice of Effectiveness of a Prohibition Order, as well as the necessity for these MFBI's to comply with the Clean Air Act and other applicable environmental protection requirements, FEA proposes to conclude that a Prohibition Order to Port Wentworth 1, 2, 3, and 4 would be consistent with the purpose of ESECA to provide for a means to assist in meeting the essential

needs of the United States for fuels in a manner which is consistent, to the fullest extent practicable, with existing national commitments to protect and improve the environment.

III. *Coal and coal transportation facilities will be available to these MFBI's during the period until December 31, 1984.* A. *Coal availability.* 1. *National coal reserves.* United States coal reserves are more than sufficient to supply national needs for the foreseeable future. U.S. Department of the Interior, Bureau of Mines (BOM) data show a demonstrated coal reserve base of over 400 billion tons, over half of which is currently technically and economically recoverable (Demonstrated Coal Reserve Base of the United States, by Sulfur Category, on January 1, 1974. Bureau of Mines (May 1975) (hereafter "BOM Survey")). Within these recoverable reserves approximately 200 billion tons contain 1 percent or less sulfur by weight. To determine certain quantities of these reserves are expected to be available FEA has examined several studies referenced herein which together provide the best current evidence as to coal availability for the period ending December 31, 1984.

2. *National coal production and demand.* The comparison, stated below, of estimated national coal production, national coal demand, and the total tonnage of uncommitted planned national coal production (derived from responses to a survey of coal producing companies) shows that there should be sufficient production of coal to meet the total national demand through 1980. Beyond 1980, plans for new production are not yet fully developed because few coal producers have firm expansion plans that extend thr; far into the future; however, the projected total planned national coal production for 1985 already meets 99 percent of the total U.S. demand expected in 1985. With time, more potential mine developments will become firm plans, thus increasing the planned production.

a. *National coal production.* It is conservatively estimated that it will be practicable to produce coal nationally in at least the following quantities:

Year:	*Production potential (million tons)*
1977	732.3
1978	791.6
1979	851.4
1980	911.7
1981	960.0
1982	994.3
1983	1,017.4
1984	1,028.7
1985	1,029.6

The figures shown above are derived from FEA's *Coal Mine Expansion Study* (May 1976). This study demonstrates that most coal producers did not have firm or accurate plans for new capacity additions beyond 1980. The 1985 projection, therefore, tends to underestimate actual production potential.

An FEA study, *Coal Availability Report*, April 1977 (hereafter "Availability Report"), indicates current plans for nationwide production of uncommitted coal as follows:

Year:	*Production (million tons)*
1978	124.3
1979	243.1
1980	293.3
1981	350.0
1982	369.9
1983	396.2
1984	475.5
1985	544.9

b. *National demand exclusive of ESECA prohibition order demand.* The estimated national demand, excluding any increased demand resulting from FEA action under the authority of Section 2(a) of ESECA, is as follows (*FEA 1976 National Energy Outlook*):

Year:	*Demand (million tons)*
1978	730
1979	764
1980	799
1981	842
1982	887
1983	935
1984	985
1985	1,040

c. *National ESECA prohibition order demand.* The estimated potential demand for coal resulting from this NOI, from all other Notices of Intention to issue Prohibition Orders to date and from all outstanding Prohibition Orders issued to date under authority of Section 2(a) of ESECA is no more than the following ("Availability Report"):

Year:	*Demand (million tons)*
1978	11.0
1979	22.4
1980	32.5
1981	35.8
1982	57.4
1983	59.8
1984	59.8

3. *Characteristic coal production and demand.* FEA's "Availability Report" identifies coal of specific quality characteristics available for use at these MFBI's. The survey is based on data from 31 mining companies that supplied useful information on 96 mining units. Responses from these companies identified planned production of coal which is not now committed to a specific buyer.

For those companies which did not respond to the survey, FEA estimated their uncommitted planned production based on their 1974 production.

a. *Characteristic coal requirements for these MFBI's* FEA's "Availability Report" has determined that boilers, of the type used at Port Wentworth 1, 2, 3 and 4 will be able to burn coal of the following characteristics and comply with all applicable air pollution control requirements.

Btu's per pound (minimum)	10,000
Moisture (percent maximum)	15
Ash (percent maximum)	20
Volatile (percent minimum)	15
Ash softening temperature (degrees fahrenheit, minimum)	2,200
Sulfur (percent maximum)	[1] 3.0

[1] Approximate.

b. *Characteristic coal demand from these MFBI's.* The potential demand for coal, of the type described above, which would result from the NOI is estimated to be as follows:

Year:	*Demand (thousand tons)*
1980 and thereafter	112

c. *National planned production, characteristic coal.* FEA's "Availability Report" has determined that coal of the type described in paragraph A.3.a., above, is uncommitted to a specific buyer and will be potentially available to these MFBI's in a nationwide market as follows:

Year:	*Production (thousand tons)*
1978	124,300
1979	243,100
1980	293,300
1981	350,000
1982	369,900
1983	396,200
1984	475,500

d. *National ESECA prohibition order demand for coal, regardless of characteristics.* The national planned production of characteristic coal, as stated in paragraph A.3.c., above, exceeds potential demand for coal regardless of characteristic expected from this NOI, from all other Notices of Intention to issue Prohibition Orders to date and from all outstanding Prohibition Orders issued to date under authority of Section 2(a) of ESECA. National ESECA Prohibition Order demand as previously stated in paragraph A.2.c., above is no more than the following ("Availability Report"):

Year:	*Demand (thousand tons)*
1978	11,032
1979	22,434
1980	32,483
1981	35,755
1982	57 362
1983	59,815
1984	59,815

e. *Regional planned prdouction, characteristic coal.* Coal with the characteristics described in paragraph A.3.a., above, is uncommitted and will be potentialy available to these MFBI's (in a probable regional supply/demand relationship related to the location of these MFBI's) from BOM Districts 7, 8 and 13 as follows ("Availability Report"):

Year:	*Production (thousand tons)*
1978	28,934
1979	52,077
1980	58,396
1981	67,882
1982	71,985
1983	77,668
1984	89,345

f. *Regional ESECA prohibition order demand for coal, regardless of characteristic.* The expected regional production of characteristic coal, as stated in paragraph A.3.e., above, exceeds the potential demand for coal regardless of characteristic from BOM Districts 7, 8 and 13 expected to result from this NOI, from all other Notices of Intention to issue Prohibition Orders to date and from all outstanding Prohibition Orders issued to date under authority of Section 2(a) of ESECA. This potential regional demand is estimated in FEA's "Availability Report" to be no more than the following:

Year:	*Demand (thousand tons)*
1978	3,268
1979	9,149
1980	16,321
1981	18,005
1982	23,682
1983	24,095
1984	24,095

g. *Regional ESECA prohibition order demand for coal by sulfur characteristic.* The potential regional demand for coal from BOM Districts 7, 8 and 13 with a 2.21–3.1% sulfur content (which includes the 3.0% maximum sulfur content described in paragraph A.3.a., above) resulting from this NOI, from all other Notices of Intention to issue Prohibition Orders to date and from all outstanding Prohibition Orders issued to date under authority of Section 2(a) of ESECA is estimated in FEA's "Availability Report" to be no more than the following:

Year:	*Demand (thousand tons) percent sulfur 2.12–3.1*
1978	77
1979	1,330
1980	1,530
1981	1,531
1982	1,531
1983	1,531
1984	1,531

The regional planned production of coal stated in paragraph A.3.a., above, with the characteristics described in paragraph A.3.a., above, far exceeds this potential ESECA regional demand for coal by sulfur characteristic.

4. *State or local laws.* FEA has found no state or local laws or policies limiting the extraction or utilization of coal that would adversely affect these production figures, and none have been brought to FEA's attention.

5. *Conclusion.* FEA's "Availability Report" has identified nationally and in BOM Districts 7, 8 and 13 uncommitted coal production that meets the requirements of Port Wentworth 1, 2, 3 and 4 paragraph A.3.a., above. FEA proposes to find that this uncommitted coal exists in amounts sufficient in any year to meet the estimated additional demand for coal, both nationally and from these Districts, resulting from this NOI, from all other Notices of Intention to issue Prohibition Orders to date and from all outstanding Prohibition Orders issued to date under authority of Section 2(a) of ESECA.

Coal for these MFBI's will probably be bought from producers according to regional supply/demand relationships related to the MFBI's location from BOM Districts 7, 8 and 13.

FEA observes however, that the MFBI's could purchase coal in other markets as such production becomes available. (*The Feasibility of Considering Expanded Use of Western Coal by Midwestern and Eastern Utilities in the Period 1978 and Beyond*, School of Engineering, University of Pennsylvania, November 7, 1975.)

B. *Coal transportation.*

1. *Location of MFBI's and coal supply.* Based on an FEA study, *Coal Transportation Availability Report*, April 1977, (hereafter "Transportation Availability Report"), coal for Port Wentworth 1, 2, 3 and 4 would probably come from BOM District 8 as the primary source and from BOM District 6 as an alternate source. While these supply regions are among the nearest available sources able to supply complying coal to the plant, complying coal could be transferred by rail from other identified sources within the United States as well. The analysis of transportation availability is based on the most likely route as well as two alternate routes. These routes were chosen to demonstrate transportation availability.

2. *Route of coal shipment.* The primary route for coal delivery for Port Wentworth 1, 2, 3 and 4 originates in BOM District 8 the Corbin, Kentucky area on the Louisville and Nashville (L&N) Railroad. The L&N would move it via Knoxville, Tennessee to Atlanta, Georgia where the Southern Railway would pick it up and delivery the coal to Port Wentworth 1, 2, 3 and 4 via Macon and Midville, Georgia. The total rail distance is about 557 miles.

The alternate route from the primary supply area would originate in the St. Paul, Kentucky area on the L&N which would move the coal via its affiliate Clinchfield line to Spartanburg, South Carolina . Another affiliate, the Seaboard Coast Line RR (SCL) would then move it via Augusta to Savannah, Georgia where the Southern System (SOU) would pick it up and deliver it to Port Wentworth 1, 2, 3 and 4. The total rail distance is about 495 miles.

An alternate route from the alternate supply area would originate coal in BOM District 6 in the Devon, West Virginia area on the Norfolk and Western (N&W), which would move it via Martinsville, Virginia to Winston-Salem, North Carolina where the SOU would pick it up and carry it via Charlotte to Columbia, South Carolina. SCL would then pick it up and carry it to Savannah, Georgia where the SOU would then deliver it to Port Wentworth 1, 2, 3 and 4. The total rail distance is about 651 miles.

3. *Originating trunk carrier.* The L&N, the originating carrier of primary source coal for Port Wentworth 1, 2, 3 and 4 plant, has about 34,000 hopper cars with an estimated average capacity of 75 tons. Using an average number of 20 deliveries per year per 75-ton car, the L&N may need as many as 97 additional cars to handle the increased demand from Port Wentworth 1, 2, 3 and 4. This estimate assumes that the railroad would neither have excess originating capacity nor obtain cars from other carriers in the originating vicinity.

FEA's "Transportation Availability Report" concluded that for all potential Prohibition Order candidates studied, there would be no major constraints in transporting coal. This study examined existing rail transportation car capacity, water transportation capacity, including unloading docks, where applicable, and took into account projections made by all carriers to meet the anticipated demand for all types of transportation facilities assuming all MFBI's studied were to receive orders under Section 2(a) of ESECA.

The L&N indicated that transportation facilities at those mine sites within BOM District 8 served by the L&N are in good condition and that loading facilities could handle the required coal volumes.

FEA has not found nor has it been informed of any apparent constraints to carrying coal for any alternate or intermediate carriers should they be used.

4. *Destination carrier and plant facilities.* Port Wentworth 1, 2, 3 and 4 has indicated that no coal has been used in the past, but in case of conversion to coal the Southern Railway could deliver coal to Port Wentworth 1, 2, 3 and 4.

There are no other obstacles to the delivery of coal to Port Wentworth 1, 2, 3 and 4.

5. *Conclusion.* Coal transportation facilities will be available for the period a Prohibition Order is expected to be in effect since no major constraints to coal delivery over the primary route to Port Wentworth 1, 2, 3 and 4 presently exist, and alternate routes are available.

APPENDIX—PROPOSED FINDINGS AND RATIONALE FOR NOTICE OF INTENTION TO ISSUE A PROHIBITION ORDER

ESECA and the FEA regulations require FEA to make certain findings before issuing a Prohibition Order to a major fuel burning installation (MFBI). FEA's proposed findings are set out below with respect to the MFBI's named below. Supporting rationale and conclusions are also set forth.

Docket No.	Owner	Installation	Unit No.	Location
OCU-1396	Weyerhaeuser Co.	Plymouth plant	2, 3	Plymouth, N.C

These findings, which are now proposed by FEA, are based on the information that has been provided to and developed by FEA prior to the issuance of this Notice of Intention (NOI) to issue a Prohibition Order.

Weyerhaeuser Company shall be referred to as the "owner" and as "Weyerhaeuser". Plymouth Plant Units 2 and 3 shall be referred to as the "MFBI's" and as "Plymouth 2 and 3".

I. *Capability and necessary plant equipment to burn coal.* FEA proposes to find that on June 22, 1974, Plymouth 2 and 3 had the capability and necessary plant equipment to burn coal. This proposed finding is based on the facts and interpretations stated below:

A. Weyerhaeuser, in a Major Fuel Burning Installation Coal Conversion Report, Section II, Questions 6, and 12–14, (Form FEA C–602–S–0), filed on May 22, 1975, indicated that each MFBI had in place on June 22, 1974, a boiler that was capable of burning coal. The boilers had been designed and constructed or modified to burn coal as their primary energy source, notwithstanding the fact that on June 22, 1974, the MFBI's may not have been burning coal as their primary energy source.

B. Based on information Weyerhaeuser filed with FEA dated August 13, 1976, and other information available to FEA, the following plant equipment and facilities at Plymouth 2 and 3 would have to be acquired or refurbished in order for these MFBI's to burn coal as their primary energy source:

1. Crushers; 2. Pulverizers; 3. Combustion controls; 4. Boiler retubing; 5. Soot blowers; 6. Feeders; 7. Instrumentation/controls; 8. Coal handling equipment; 9. Boiler equipment.

C. FEA proposes to find that on June 22, 1974, Plymouth 2 and 3 had all other significant plant equipment and facilities associated with the burning of coal.

D. Within the meaning of ESECA and the regulations promulgated pursuant thereto, the equipment and facilities listed in paragraph B, above, do not individually or in combination constitute a lack of capability and necessary plant equipment to burn coal as of June 22, 1974.

II. *The burning of coal in lieu of natural gas or petroleum products is practicable and consistent with the purposes of ESECA.* FEA proposes to find that the burning of coal in lieu of petroleum products or natural gas at Plymouth 2 and 3 is practicable and consistent with the purposes of ESECA. This proposed finding is based upon an analysis by FEA of the fuel consumption of these boilers for the period 1973–1975, the remaining useful service life of each boiler after conversion, the net operating cost differential that would result from compliance with a Prohibition Order, as well as the facts and interpretations referenced below:

A. *The burning of coal is practicable.*—1. *Costs associated with burning coal.*—a. *Capital investment costs.* The total estimated initial capital investment costs, including financing costs, that would result from the acquisition and refurbishment of equipment and facilities associated with the burning of coal at Plymouth 2 and 3 have been determined.

This determination was based on existing FEA information and analysis as well as information filed with FEA by the owner. Approximate costs to comply with applicable environmental protection requirements have also been considered, including the cost of compliance with the air pollution control requirements of the Clean Air Act.

b. *Annual operating and maintenance costs.* The expected increase in operating and maintenance costs, exclusive of fuel costs, that would result from the burning of coal has been calculated based on information

supplied by the owner or otherwise acquired by FEA.

c. *Fuel costs.* Based on an analysis of annual fuel consumption and fuel cost information supplied by the owner and/or, in appropriate circumstances, upon FEA's fuel cost estimates, FEA has determined that the burning of coal in lieu of natural gas or petroleum products at Plymouth 2 and 3 will result in a decrease in annual fuel costs.

d. *Net operating cost differential.* Based on the factors stated in paragraph A.1. a.–c., above, as well as the expected remaining useful life of the boilers after conversion, FEA has determined that the net annual operating cost differential (which represents the difference between operating the boilers with coal and alternate fuel(s) as their primary energy source), resulting from the conversion of Plymouth 2 and 3, will represent an annual cost increase of $5,948.

2. *Reasonableness of costs of conversion.* The foregoing analysis of the costs of conversion provided the basis for deciding whether the conversion of Plymouth 2 and 3 is reasonable.

As a result of conversion, Weyerhaeuser will incur additional capital investment costs, including financing costs, and additional annual operating and maintenance costs, exclusive of fuel costs, but will experience an annual savings in its total fuel costs for the expected remaining useful service life of the boilers after conversion.

Increased costs of conversion will be mitigated by the decrease in fuel costs. The net result, however, will be an increase in the annual cost of operating the boilers.

The use of coal at Plymouth 2 and 3 will result in a substantial annual savings of barrels of oil that otherwise would be used as a boiler fuel.

Although conversion to the burning of coal would be expected to increase the cost of operating at Plymouth 2 and 3, FEA proposes to find that such increased cost per barrel of oil saved is not unreasonable. This determination is based on consideration of the substantial savings of oil that will result from this conversion. The determination that the costs of converting are not unreasonable is further supported by consideration of such costs in relation to the expected remaining useful life of the boilers after conversion, the size and resources of Weyerhaeuser as examined in the following analysis of financial capability, the nature of the expected operation of these boilers, and potential future increases in the fuel cost differential in favor of coal.

3. *Financial capability of the owner.*—a. *Recovery of capital investment.* FEA proposes to find that compliance with a Prohibition Order by Plymouth 2 and 3 would be economically feasible. FEA's analysis took into consideration the financial capability of the owner and is based upon the owner's financial position as reported in the Dun and Bradstreet Reference Book (March 1977). Where necessary, FEA performed an independent analysis of the owner's financial capability considering such factors as the owner's current financial statement and the additional capital investment required for the owner to comply with this NOI and all other NOI's which are currently under consideration, as well as additional capital investment costs related to all other Notices of Intention, to date, if any, to issue Prohibition or Construction Orders, and from all outstanding Prohibition or Construction Orders, if any, issued to date under authority of Section 2 (a) and (c) of ESECA to MFBI's owned by Weyerhaeuser. FEA related these additional capital investment costs to the total capitalization of Weyerhaeuser and the remaining useful life after conversion of Plymouth 2 and 3.

FEA does not consider the effect of the added capital investment costs to represent an unreasonable burden given the financial capabilities of Weyerhaeuser to assume such costs.

b. *Total annual costs associated with conversion.* The total estimated annual increase in costs (amortized increased capital investment costs and other costs, exclusive of fuel costs) associated with the burning of coal as opposed to oil attributable to compliance with this NOI and all other NOI's which are currently under consideration has been determined. FEA also took into consideration total annual costs resulting from compliance with all other Notices of Intention, to date, if any, to issue Prohibition or Construction Orders, and from all outstanding Prohibition or Construction Orders, if any, issued to date under authority of Section 2(a) and (c) of ESECA to Weyerhaeuser MFBI's.

Notwithstanding the potential offsetting value of fuel cost savings, attributable to compliance with this NOI and all other NOI's currently under consideration, Weyerhaeuser's total annual costs after conversion will increase by $5,948.

B. *Consistency with the purposes of ESECA.* Because the issuance of a Prohibition Order to Plymouth 2 and 3 will discourage the use of natural gas or petroleum products and encourage the increased use of coal, FEA proposes to conclude that this action would be consistent with the purpose of ESECA to provide a means to assist in meeting the essential needs of the United States for fuels.

On the basis of the environmental analysis which FEA is required to conduct prior to issuance of a Notice of Effectiveness of a Prohibition Order, as well as the necessity for these MFBI's to comply with the Clean Air Act and other applicable environmental protection requirements, FEA proposes to conclude that a Prohibition Order to Plymouth 2 and 3 would be consistent with the purpose of ESECA to provide for a means to assist in meeting the essential needs of the United States for fuels in a manner which is consistent, to the fullest extent practicable, with existing national commitments to protect and improve the environment.

III. *Coal and coal transportation facilities will be available to these MFBI's during the period until December 31, 1984.*—A. *Coal availability*—1. *National coal reserves.* United States coal reserves are more than sufficient to supply national needs for the foreseeable future. U.S. Department of the Interior, Bureau of Mines (BOM) data show a demonstrated coal reserve base of over 400 billion tons, over half of which is currently technically and economically recoverable (Demonstrated Coal Reserve Base of the United States, by Sulfur Category, on January 1, 1974, Bureau of Mines May 1975 [hereafter "BOM Survey"]). Within these recoverable reserves approximately 200 billion tons contain 1 percent or less sulfur by weight. To determine when certain quantities of these reserves are expected to be available, FEA has examined several studies referenced herein, which together provide the best current evidence as to coal availability for the period ending December 31, 1984.

2. *National coal production and demand.* The comparison, stated below, of estimated national coal production, national coal demand, and the total tonnage of uncommitted planned national coal production (derived from responses to a survey of coal producing companies) shows that there should be sufficient production of coal to meet the total national demand through 1980. Beyond 1980, plans for new production are not yet fully developed because few coal producers have firm expansion plans that extend that far into the future; however, the projected total planned national coal production for 1985 already meets 99 percent of the total U.S. demand expected in 1985. With time, more potential mine developments will become firm plans, thus increasing the planned production.

a. *National coal production.* It is conservatively estimated that it will be practicable to produce coal nationally in at least the following quantities:

Year:	*Production potential (million tons)*
1977	732.3
1978	791.6
1979	851.4
1980	911.7
1981	960.0
1982	994.3
1983	1,017.4
1984	1,028.7
1985	1,029.6

The figures shown above are derived from FEA's Coal Mine Expansion Study (May 1976). This study demonstrates that most coal producers did not have firm or accurate plans for new capacity additions beyond 1980. The 1985 projection, therefore, tends to underestimate actual production potential.

An FEA study, *Coal Availability Report*, April 1977 (hereafter "Availability Report"), indicates current plans for nationwide production of uncommitted coal as follows:

Year:	*Production (million tons)*
1978	124.3
1979	243.1
1980	293.3
1981	350.0
1982	369.9
1983	396.2
1984	475.5
1985	544.9

b. *National demand exclusive of ESECA prohibition order demand.* The estimated national demand, excluding any increased demand resulting from FEA action under the authority of Section 2(a) of ESECA, is as follows (*FEA 1976 National Energy Outlook*):

Year:	*Demand (million tons)*
1978	730
1979	764
1980	799
1981	842
1982	887
1983	935
1984	985
1985	1,040

c. *National ESECA prohibition order demand.* The estimated potential demand for coal resulting from this NOI, from all other Notices of Intention to issue Prohibition Orders to date and from all outstanding Prohibition Orders issued to date under authority of Section 2(a) of ESECA is no more than the following ("Availability Report"):

Year:	*Demand (million tons)*
1978	11.0
1979	22.4
1980	33.5
1981	35.8
1982	57.4
1983	59.8
1984	59.8

3. *Characteristic coal production and demand.* FEA's "Availability Report" identifies coal of specific quality characteristics available for use at these MFBI's. The survey is based on data from 31 mining companies that supplied useful information on 96 mining

units. Responses from these companies identified planned production of coal which is not now committed to a specific buyer. For those companies which did not respond to the survey, FEA estimated their uncommitted planned production based on their 1974 production.

a. *Characteristic coal requirements for these MFBI's.* FEA's "Availability Report" has determined that boilers of the type used at Plymouth 2 and 3 will be able to burn coal of the following characteristics and comply with all applicable air pollution control requirements.

Btu's per pound (minimum)	10,000
Moisture (percent maximum)	15
Ash (percent maximum)	20
Volatile (percent minimum)	15
Ash softening temperature (degrees fahrenheit, minimum)	2,200
Sulfur (percent maximum)	[1] 1.5

[1] Approximate.

b. *Characteristic coal demand from these MFBI's.* The potential demand for coal, of the type described above, which would result from this NOI is estimated to be as follows:

Year:	Demand (thousand tons)
1979 and thereafter	188

c. *National planned production, characteristic coal.* FEA's "Availability Report" has determined that coal of the type described in paragraph A.3.a., above, is uncommitted to a specific buyer and will be potentially available to these MFBI's in a nationwide market as follows:

Year:	Production (thousand tons)
1978	67,937
1979	127,138
1980	158,932
1981	169,318
1982	200,259
1983	214,838
1984	253,700

d. *National ESECA prohibition order demand for coal, regardless of characteristics.* The national planned production of characteristic coal, as stated in paragraph A.3.c., above, exceeds potential demand for coal regardless of characteristic expected from this NOI, from all other Notices of Intention to issue Prohibition Orders to date and from all outstanding Prohibition Orders issued to date under authority of Section 2(a) of ESECA. National ESECA Prohibition Order demand as previously stated in paragraph A.2.c., above, is no more than the following ("Availability Report"):

Year:	Demand (thousand tons)
1978	11,032
1979	22,434
1980	32,483
1981	35,755
1982	57,362
1983	59,815
1984	59,815

e. *Regional planned production, characteristic coal.* Coal with the characteristics described in paragraph A.3.a., above, is uncommitted and will be potentially available to these MFBI's (in a probable regional supply/demand relationship related to the location of these MFBI's) from BOM Districts 7, 8 and 13 as follows ("Availability Report"):

Year:	Production (thousand tons)
1978	26,032
1979	47,383
1980	53,062
1981	61,661
1982	65,354
1983	70,552
1984	80,964

f. *Regional ESECA prohibition order demand for coal, regardless of characteristic.* The expected regional production of characteristic coal, as stated in paragraph A.3.e., above, exceeds the potential demand for coal regardless of characteristic from BOM Districts 7, 8 and 13 expected to result from this NOI, from all other Notices of Intention to issue Prohibition Orders to date and from all outstanding Prohibition Orders issued to date under authority of Section 2(a) of ESECA. This potential regional demand is estimated in FEA's "Availability Report" to be no more than the following:

Year:	Demand (thousand tons)
1978	3,268
1979	9,140
1980	16,321
1981	18,005
1982	23,682
1983	24,095
1984	24,095

g. *Regional ESECA prohibition order demand for coal by sulfur characteristic.* The potential regional demand for coal from BOM Districts 7, 8 and 13 with a 1.41–1.8% sulfur content (which includes the 1.5% maximum sulfur content described in paragraph A.3.a., above) resulting from this NOI, from all other Notices of Intention to issue Prohibition Orders to date and from all outstanding Prohibition Orders issued to date under authority of Section 2(a) of ESECA is estimated in FEA's "Availability Report" to be no more than the following:

Year:	Demand (thousand tons) percent sulfur 1.41–1.8
1978	226
1979	897
1980	1,773
1981	1,773
1982	1,773
1983	1,773
1984	1,773

The regional planned production of coal stated in paragraph A.3.c., above, with the characteristics described in paragraph A.3.a., above, far exceeds this potential ESECA regional demand for coal by sulfur characteristic.

4. *State of local laws.* FEA has found no state or local laws or policies limiting the extraction or utilization of coal that would adversely affect these production figures, and none have been brought to FEA's attention.

5. *Conclusion.* FEA's "Availability Report" has identified nationally and in BOM Districts 7, 8 and 13 uncommitted coal production that meets the requirements of Plymouth 2 and 3 as described in paragraph A.3.a., above. FEA proposes to find that this uncommitted coal exists in amounts sufficient in any year to meet the estimated additional demand for coal, both nationally and from these Districts, resulting from this NOI, from all other Notices of Intention to issue Prohibition Orders to date and from all outstanding Prohibition Orders issued to date under authority of Section 2(a) of ESECA.

Coal for these MFBI's will probably be bought from producers according to regional supply/demand relationships related to the MFBI's location from BOM Districts 7, 8 and 13. FEA observes, however, that the MFBI's could purchase coal in other markets as such production becomes available.

(*The Feasibility of Considering Expanded Use of Western Coal by Midwestern and Eastern Utilities in the Period 1978 and Beyond*, School of Engineering, University of Pennsylvania, November 7, 1975.)

B. *Coal transportation.*—1. *Location of MFBI's and coal supply.* Based on an FEA study, *Coal Transportation Availability Report*, April 1977 (hereafter "Transportation Availability Report"), coal for Plymouth 2 and 3 would probably come from BOM District 8 as the primary supply area and from BOM District 1 as the alternate supply area. While these supply regions are among the nearest available sources able to supply complying coal to the plant, complying coal could be transferred by rail from other identified source within the United States as well. The analysis of transportation availability is based on the most likely route as well as two alternate routes. These routes were chosen to demonstrate transportation availability.

2. *Route of coal shipment.* The primary route for coal delivery for Plymouth 2 and 3 is to originate coal near Corbin, Kentucky on the Louisville and Nashville Railroad (L&N) which would carry it to Knoxville, Tennessee where the Southern Railway Co. would pick the coal up and move it via Morristown, Tennessee, Asheville, Salisbury and Greensboro, North Carolina to Raleigh, North Carolina. The Norfolk Southern Railway Co. (NS) would then deliver it to Plymouth 2 and 3 via Wilson and Washington, North Carolina. The total distance is about 409 miles by rail.

The alternate route from the primary supply area is to originate coal in the Devon, West Virginia area on the Norfolk and Western (N&W) which would move it via Roanoke to Jarrett, Virginia. The Seaboard Coast Line (SCL) would then pick it up and carry it to Plymouth 2 and 3. The total rail distance is about 475 miles.

An alternate route from the alternate supply area would originate coal in the Altoona, Pennsylvania area on Consolidated Railroad (Conrail). Conrail would move the coal via York, Pennsylvania and Baltimore, Maryland to Washington, D.C. The Richmond, Fredericksburg and Potomac Railroad Company would pick it up and carry it to Richmond, Virginia where SCL would pick it up and deliver it to Plymouth 2 and 3. The total rail distance is approximately 545 miles.

3. *Originating trunk carrier.* The L&N, the originating carrier of coal for Plymouth 2 and 3 has about 34,000 hopper cars with an estimated average capacity of 75 tons. Using an average number of 20 deliveries per year per 75-ton car, the L&N may need as many as 265 additional cars by 1979 to handle the increased demand of the Plymouth Plant. This estimate assumes that the railroad would neither have excess originating capacity nor obtain cars from other carriers in the originating vicinity.

FEA's "Transportation Availability Report" concluded that for all potential Prohibition Order candidates studied, there would be no major constraints in transporting coal. This study examined existing rail transportation car capacity, water transportation capacity, including unloading docks, where applicable, and took into account projections made by all carriers to meet the anticipated demand for all types of transportation facilities assuming all MFBI's studied were to receive orders under Section 2(a) of ESECA. The L&N indicated that transportation facilities at mine sites within BOM District 8 served by the L&N are in good condition and loading facilities could handle the required coal volume.

FEA has not found nor has it been informed of any apparent constraints to carrying coal for any alternate or intermediate carriers should they be used.

4. *Destination carrier and MFBI facilities.* The destination carriers have delivered coal to the plant in the past. Coal can now be burned at Plymouth 2 and 3.

There are no other obstacles to the delivery of coal to Plymouth 2 and 3.

5. *Conclusion.* Coal transportation facilities will be available for the period a Prohibition Order is expected to be in effect since no major constraints to coal delivery over the primary route to Plymouth 2 and 3 presently exist, and alternate routes are available.

APPENDIX—PROPOSED FINDINGS AND RATIONALE FOR NOTICE OF INTENTION TO ISSUE A PROHIBITION ORDER

ESECA and the FEA regulations require FEA to make certain findings before issuing a Prohibition Order to a major fuel burning installation (MFBI). FEA's proposed findings are set out below with respect to the MFBI's named below. Supporting rationale and conclusions are also set forth.

Docket No.	Owner	Installation	Unit No.	Location
OCU-2057	Monsanto Co	Pensacola plant	1, 2, 3, 4, 5, 6	Pensacola, Fla.

These findings, which are now proposed by FEA, are based on the information that has been provided to and developed by FEA prior to the issuance of this Notice of Intention (NOI) to issue a Prohibition Order.

Monsanto Company shall be referred to as the "owner" and as "Monsanto". Pensacola Units 1 through 6 shall be referred to as the "MFBI's" and as "Pensacola 1, 2, 3, 4, 5 and 6".

I. *Capability and necessary plant equipment to burn coal.*

FEA proposes to find that on June 22, 1974, Monsanto had the capability and necessary plant equipment to burn coal. This proposed finding is based on the facts and interpretations stated below:

A. Monsanto, in a Major Fuel Burning Installation Coal Conversion Report, Section II, Questions 6 and 12–14 (Form FEA C–602–S–0), filed on May 20, 1975, indicated that each MFBI had in place on June 22, 1974, a boiler that was capable of burning coal. The boilers had been designed and constructed or modified to burn coal as their primary energy source, notwithstanding the fact that on June 22, 1974, the MFBI's may not have been burning coal as their primary energy source.

B. Based on information Monsanto filed with FEA dated August 3, 1976, and other information available to FEA, the following plant equipment and facilities at Monsanto would have to be acquired or refurbished in order for these MFBI's to burn coal as their primary energy source:

1. Combustors
2. Heaters.
3. Special instrumentation and controls.
4. Unloaders.
5. Conveyors.
6. Ash handling equipment.
7. Hoppers.
8. Silos.

C. FEA proposes to find that on June 22, 1974, Pensacola 1, 2, 3, 4, 5 and 6 had all other significant plant equipment and facilities associated with the burning of coal.

D. Within the meaning of ESECA and the regulations promulgated pursuant thereto, the equipment and facilities listed in paragraph B, above, do not individually or in combination constitute a lack of capability and necessary plant equipment to burn coal as of June 22, 1974.

II. *The burning of coal in lieu of natural gas or petroleum products is practicable and consistent with the purposes of ESECA.*

FEA proposes to find that the burning of coal in lieu of petroleum products or natural gas at Pensacola 1, 2, 3, 4, 5 and 6 is practicable and consistent with the purposes of ESECA. This proposed finding is based upon an analysis by FEA of the fuel consumption of these boilers for the period 1973–1977, the remaining useful service life of each boiler after conversion, the net operating cost differential that would result from compliance with a Prohibition Order, as well as the facts and interpretations referenced below:

A. *The burning of coal is practicable.*

1. *Anticipated fuel supplies. Curtailment of natural gas supply.* Based on information obtained from the Federal Power Commission, the natural gas supplier, and in certain cases the owner, FEA presumes that these MFBI's will experience a substantial curtailment of their present supply of natural gas. This curtailment will result in increased reliance on alternate fuels in the future.

2. *Costs associated with burning coal.* a. *Capital investment costs.* The total estimated initial capital investment costs, including financing costs, that would result from the acquisition and refurbishment of equipment and facilities associated with the burning of coal at Pensacola 1, 2, 3, 4, 5 and 6 have been determined.

This determination was based on existing FEA information and anlysis as well as information filed with FEA by the owner. Approximate costs to comply with applicable environmental protection requirements have also been considered, including the cost of compliance with the air pollution control requirements of the Clean Air Act.

b. *Annual operating and maintenance costs.* The expected increase in operating and maintenance costs, exclusive of fuel costs, that would result from the burning of coal has been calculated based on information supplied by the owner or otherwise acquired by FEA.

c. *Fuel costs.* Based on an analysis of annual fuel consumption and fuel cost information supplied by the owner and/or, in appropriate circumstances, upon FEA's fuel cost estimates, FEA has determined that the burning of coal in lieu of natural gas or petroleum products at Pensacola 1, 2, 3, 4, 5 and 6 will result in a decrease in annual fuel costs.

d. *Net operating cost differential.* Based on the factors stated in paragraphs A.1.a.–c., above, as well as the expected remaining useful life of the boilers after conversion, FEA has determined that the net annual operating cost differential, hereafter "NOCD", (which represents the difference between operating the boilers with coal and alternate fuel(s) as their primary energy source), resulting from the conversion of Pensacola 1, 2, 3, 4, 5 and 6 will represent an annual cost increase of $1,454,883.

3. *Reasonableness of additional costs of burning coal.* The following analysis of the costs of conversion provides the basis for deciding that compliance with the proposed order is not unreasonable.

By converting from burning natural gas to burning coal as their primary energy source these MFBI's would experience a net annual operating cost increase, but would save a substantial amount of natural gas. This cost would only be incurred for a limited period because these MFBI's will eventually experience a substantial curtailment of their supply of natural gas. If the Prohibition Order were not issued to these MFBI's they could alternately replace their current natural gas supply with either petroleum products or coal for the period following such substantial curtailment of their natural gas supply.

In the calculation of the NOCD, FEA has considered oil as a substitute fuel for curtailed natural gas. In calculating the NOCD, in those instances where the MFBI has experienced no curtailment of its natural gas supply, FEA considered the present fuel usage. The net annual operating cost increase for these MFBI's resulting from operating on coal as their primary energy source, instead of petroleum products (and/or natural gas where applicable), will be approximately $1,454,883.

Although the use of the coal alternative, instead of potential petroleum products, could be expected to result in a net annual operating cost increase, FEA has determined that the prohibition of burning natural gas or petroleum products as the primary energy source at Pensacola 1, 2, 3, 4, 5, and 6 is not unreasonable.

Burning of coal by these MFBI's as their primary energy source instead of petroleum products would result in additional capital investment costs and annual operating and maintenance costs exclusive of fuel costs. Any additional conversion costs would, however, be mitigated by the savings in fuel costs inherent in burning coal. Notwithstanding the fact that these MFBI's could experience annual savings in their total fuel costs should they convert to coal instead of converting to petroleum products, there would be a net increase in the costs to these MFBI's.

Although conversion to the burning of coal instead of petroleum products would be expected to increase the costs incurred by Pensacola 1, 2, 3, 4, 5, and 6 by $1,454,883 per year, FEA proposes to find that such increased cost, per barrel of oil saved is not unreasonable given the purposes of ESECA. This determination is based on consideration of the substantial potential oil savings that would result from conversion to coal. The determination that the costs of burning coal instead of petroleum products would not be unreasonable is further supported by consideration of such costs in relation to the expected remaining useful life of these MFBI's, the size and resources of the owner as examined in the following discussion of financial capability, and the nature of the expected operations of these MFBI's.

The additional costs that would be incurred if FEA were to prohibit the burning of natural gas or petroleum products as the primary energy source at Pensacola 1, 2, 3, 4, 5, and 6 would only be incurred for a limited period of time. In view of the scarcity of national supplies of natural gas and the likelihood that Pensacola 1, 2, 3, 4, 5, and 6 will experience a substantial curtailment of their present natural gas supply in the future, FEA has determined that the cost of burning coal in lieu of natural gas is not unreasonable. (Final Report Oil and Gas Resources, Reserves, and Productive Capacities Volumes I and II, Federal Energy Administration, October 1975.)

4. *Financial capability of the owner.* a. *Recovery of capital investment.* FEA proposes to find that compliance with a Prohibition Order by Pensacola 1, 2, 3, 4, 5 and 6 would be economically feasible. FEA's analysis took into consideration the financial capability of the owner and is based upon the owner's financial position as reported in the Dun and Bradstreet Reference Book (March 1977). Where necessary, FEA performed an independent analysis of the

owner's financial capability, considering such factors as the owner's current financial statement and the additional capital investment required for the owner to comply with this NOI and all other NOI's which are currently under consideration, as well as additional capital investment costs related to all other Notices of Intention, to date, if any, to issue Prohibition or Construction Orders, and from all outstanding Prohibition or Construction Orders, if any, issued to date under authority of Section 2 (a) and (c) of ESECA to MFBI's owned by Monsanto. FEA related these additional capital investment costs to the total capitalization of Monsanto and the remaining useful life after conversion of Pensacola 1, 2, 3, 4, 5 and 6.

FEA does not consider the effect of the added capital investment costs to represent an unreasonable burden given the financial capabilities of Monsanto to assume such costs.

b. *Total annual costs associated with conversion.* The total estimated annual increase in costs (amortized increased capital investment costs and other costs, exclusive of fuel costs) associated with the burning of coal as opposed to oil and and natural gas attributable to compliance with this NOI and all other NOI's which are currently under consideration has been determined. FEA also took into consideration total annual costs resulting from compliance with all other Notices of Intention, to date, if any, to issue Prohibition or Construction Orders, and from all outstanding Prohibition or Construction Orders, if any, issued to date under authority of Section 2(a) and (c) of ESECA to Monsanto MFBI's.

Notwithstanding the potential offsetting value of fuel cost savings, attributable to compliance with this NOI and all other NOI's currently under consideration, Monsanto's total annual costs after conversion will increase by $1,454,883.

B. *Consistency with purposes of ESECA.* Because the issuance of a Prohibition Order to Pensacola 1, 2, 3, 4, 5, and 6 will discourage the use of natural gas or petroleum products and encourage the increased use of coal, FEA proposes to conclude that this action would be consistent with the purpose of ESECA to provide a means to assist in meeting the essential needs of the United States for fuels.

On the basis of the environmental analysis which FEA is required to conduct prior to issuance of a Notice of Effectiveness of a Prohibition Order, as well as the necessity for these MFBI's to comply with the Clean Air Act and other applicable environmental protection requirements, FEA proposes to conclude that a Prohibition Order to Pensacola 1, 2, 3, 4, 5, and 6 would be consistent with the purpose of ESECA to provide for a means to assist in meeting the essential needs of the United States for fuels in a manner which is consistent, to the fullest extent practicable, with existing national commitments to protect and improve the environment.

III. *Coal and coal transportation facilities will be available to these MFBI's during the period until December 31, 1984.*

A. *Coal availability.* 1. *National coal reserves.* United States coal reserves are more than sufficient to supply national needs for the foreseeable future. U.S. Department of the Interior, Bureau of Mines (BOM) data show a demonstrated coal reserve base of over 400 billion tons, over half of which is currently technically and economically recoverable (Demonstrated Coal Reserve Base of the United States by Sulfur Category, on January 1, 1974, Bureau of Mines (May 1975) [hereafter "BOM Survey"]). Within these recoverable reserves approximately 200 billion tons contain 1 percent or less sulfur by weight. To determine when certain quantities of these reserves are expected to be available, FEA has examined several studies referenced herein, which together provide the best current evidence as to coal availability for the period ending December 31, 1984.

2. *National coal production and demand.* The comparison, stated below, of estimated national coal production, national coal demand, and the total tonnage of uncommitted planned national coal production (derived from responses to a survey of coal producing companies) shows that there should be sufficient production of coal to meet the total national demand through 1980. Beyond 1980, plans for new production are not yet fully developed because few coal producers have firm expansion plants that extend that far into the future; however, the projected total planned national coal production for 1985 already meets 99 percent of the total U.S. demand expected in 1985. With time, more potential mine developments will become firm plans, thus increasing the planned production.

a. *National coal production.* It is conservatively estimated that it will be practical to produce coal nationally in at least the following quantities:

Year:	*Production potential (million tons)*
1977	732.3
1978	791.6
1979	851.4
1980	911.7
1981	960.0
1982	994.3
1983	1,017.4
1984	1,028.7
1985	1,029.6

The figures shown above are derived from FEA's Coal Mine Expansion Study (May 1976). This study demonstrates that most coal producers did not have firm or accurate plans for new capacity additions beyond 1980. The 1985 projection, therefore, tends to underestimate actual production potential.

An FEA study, Coal Availability Report, April 1977 (hereafter "Availability Report"), indicates current plans for nationwide production of uncommitted coal as follows:

Year:	*Production (million tons)*
1978	124.3
1979	243.1
1980	293.3
1981	350.0
1982	369.9
1983	396.2
1984	475.5
1985	544.9

b. *National demand exclusive of ESECA prohibition order demand.* The estimated national demand, excluding any increased demand resulting from FEA action under the authority of Section 2(a) of ESECA, is as follows (FEA 1976 National Energy Outlook):

Year:	*Demand (million tons)*
1978	730
1979	764
1980	799
1981	842
1982	887
1983	935
1984	985
1985	1,040

c. *National ESECA prohibition order demand.* The estimated potential demand for coal resulting from this NOI, from all other Notices of Intention to issue Prohibition Orders to date and from all outstanding Prohibition Orders issued to date under authority of Section 2(a) of ESECA is no more than the following ("Availability Report"):

Year:	*Demand (million tons)*
1978	11.0
1979	22.4
1980	32.5
1981	35.8
1982	57.4
1983	59.8
1984	59.8

3. *Characteristic coal production and demand.* FEA's "Availability Report" identifies coal of specific quality characteristics available for use at these MFBI's. The survey is based on data from 31 mining companies that supplied useful information on 96 mining units. Responses from these companies identified planned production of coal which is not now committed to a specific buyer. For those companies which did not respond to the survey, FEA estimated their uncommitted planned production based on their 1974 production.

a. *Characteristic coal requirements for these MFBI's.* FEA's "Availability Report" has determined that boilers of the type used at Pensacola 1, 2, 3, 4, 5 and 6 will be able to burn coal of the following characteristics and comply with all applicable air pollution control requirements.

Btu's/lb	[1] 10,000
Moisture (percent)	[2] 15
Ash (percent)	[2] 20
Volatile (percent)	[1] 15
Ash (percent)	[2] 20
Sulfur (percent) (approx.)	[2] 2.5

[1] Minimum.
[2] Maximum.

b. *Characteristic coal demand from these MFBI's.* The potential demand for coal, of the type described above, which would result from this NOI is estimated to be as follows:

Year:	*Demand (thousand tons)*
1983 and thereafter	248

c. *National planned production, characteristic coal.* FEA's "Availability Report" has determined that coal of the type described in paragraph A.3.a., above, is uncommitted to a specific buyer and will be potentially available to these MFBI's in a nationwide market as follows:

Year:	*Production (thousand tons)*
1978	124,300
1979	243,100
1980	293,300
1981	350,000
1982	369,900
1983	396,200
1984	475,500

d. *National ESECA prohibition order demand for coal, regardless of characteristics.* The national planned production of characteristic coal, as stated in paragraph A.3.c., above, exceeds potential demand for coal regardless of characteristic expected from this NOI, from all other Notices of Intention to issue Prohibition Orders to date and from all outstanding Prohibition Orders issued to date under authority of Section 2(a) of ESECA. National ESECA Prohibition Order demand as previously stated in paragraph A.3.c., above, is no more than the following ("Availability Report"):

Year:	*Demand (thousand tons)*
1978	11,032
1979	22,434
1980	32,483
1981	35,755
1982	57,362
1983	59,815
1984	59,815

e. *Regional planned production, characteristic coal.* Coal with the characteristics described in paragraph A.3.a., above, is uncommitted and will be potentially available to these MFBI's (in a probable regional supply/demand relationship related to the location of these MFBI's) from BOM Districts 7, 8 and 13 as follows ("Availability Report"):

Year:	*Production (thousand tons)*
1978	28, 934
1979	52, 077
1980	58, 396
1981	67, 882
1982	71, 985
1983	77, 668
1984	80, 345

f. *Regional ESECA prohibition order demand for coal, regardless of characteristic.* The expected regional production of characteristic coal, as stated in paragraph A.3.e., exceeds the potential demand for coal regardless of characteristic from BOM Districts 7, 8 and 13 expected to result from this NOI, from all other Notices of Intention to issue Prohibition Orders to date and from all outstanding Prohibition Orders issued to date under authority of Section 2(a) of ESECA. This potential regional demand is estimated in FEA's "Availability Report" to be no more than the following:

Year:	*Demand (thousand tons)*
1978	3, 268
1979	9, 149
1980	16, 321
1981	18, 005
1982	23, 682
1983	24, 095
1984	24, 095

g. *Regional ESECA prohibition order demand for coal by sulfur characteristic.* The potential regional demand for coal from BOM Districts 7, 8 and 13 with a 2.2–2.51 percent sulfur content (which includes the 2.5 percent maximum sulfur content described in paragraph A.3.a., above) resulting from this NOI, from all other Notices of Intention to issue Prohibition Orders to date and from all outstanding Prohibition Orders issued to date under authority of Section 2(a) of ESECA is estimated in FEA's "Availability Report" to be no more than the following:

Year:	*Demand (thousand tons) percent sulfur 2.2 to 2.51*
1978	77
1979	1, 330
1980	1, 530
1981	1, 531
1982	1, 531
1983	1, 531
1984	1, 531

The regional planned production of coal stated in paragraph A.3.e., above, with the characteristics described in paragraph A.3.a., above, far exceeds this potential ESECA regional demand for coal by sulfur characteristic.

4. *State or local laws.* FEA has found no state or local laws or policies limiting the extraction or utilization of coal that would adversely affect these production figures, and none have been brought to FEA's attention.

5. *Conclusion.* FEA's "Availability Report" has identified nationally and in BOM Districts 7, 8, and 13 uncommitted coal production that meets the requirements of Pensacola 1, 2, 3, 4, 5, and 6 as described in paragraph A.3.a., above. FEA proposes to find that this uncommitted coal exists in amounts sufficient in any year to meet the estimated additional demand for coal, both nationally and from these Districts, resulting from this NOI, from all other Notices of Intention to issue Prohibition Orders to date and from all outstanding Prohibition Orders issued to date undeh authority of Section 2(a) of ESECA.

Coal for these MFBI's will probably be bought from producers according to regional supply/demand relationships related to the MFBI's location from BOM Districts 7, 8, and 13. FEA observes, however, that the MFBI's could purchase coal in other markets as such production becomes available. (The Feasibility of Considering Expanded Use of Western Coal by Midwestern and Eastern Utilities in the Period 1978 and Beyond, School of Engineering, University of Pennsylvania, November 7, 1975.)

B. *Coal transportation.* 1. *Location of MFBI's and coal supply.* Based on an FEA study, Coal Transportation Availability Report, April 1977 (hereafter "Transportation Availability Report"), coal for Pensacola 1, 2, 3, 4, 5, and 6 would probably come from BOM District 8 as the primary supply area and from BOM District 13 as the alternate supply area. While these supply regions are among the nearest available sources able to supply complying coal to the plant, complying coal could be transferred by rail from other identified sources within the United States as well. The analysis of transportation availability is based on the most likely route as well as two alternate routes. These routes were chosen to demonstrate transportation availability.

2. *Route of coal shipment.* The primary route for coal delivery for Pensacola 1, 2, 3, 4, 5, and 6 is to originate coal in BOM District 8 in the Williamsburg, Kentucky area on the Louisville and Nashville (L&N) Railroad. The L&N would move it via Nashville, Tennessee, and Decatur, Birmingham, and Montgomery, Alabama, for delivery to Pensacola 1, 2, 3, 4, 5, and 6. The total rail distance is about 640 miles.

The alternate route from the primary supply area originates coal near Clinton, Tennessee, on the Southern Railway which will move it via Knoxville and Cleveland, Tennessee, and Rome, Georgia, to Kimbrough, Alabama, where the Frisco Line picks it up to deliver to Pensacola 1, 2, 3, 4, 5, and 6. The total rail distance is about 630 miles.

An alternate route from the alternate supply area would originate coal in BOM District 13 the Tuscaloosa, Alabama area where the coal would be barged by the Parker Towing Company down the Warrior River and via the Gulf Intercoastal Waterway for delivery to Pensacola 1, 2, 3, 4, 5, and 6. The total distance is about 500 miles.

3. *Originating trunk carrier.* The L&N Railroad, the originating carrier of coal for Pensacola 1, 2, 3, 4, 5, and 6, has over 34,000 hopper cars in service and has been increasing this number by about 2,000 cars per year. Using an average number of 20 deliveries per year per 75-ton car, the L&N may need as many as 165 additional cars to handle the increased demand from Pensacola 1, 2, 3, 4, 5, and 6. This estimate assumes that the railroad would neither have excess originating capacity nor obtain cars from other carriers in the originating vicinity.

FEA's "Transportation Availability Report" concluded that for all potential Prohibition Order candidates studies, there would be no major constraints in transporting coal. This study examined existing rail transportation car capacity, water transportation capacity, including unloading docks, where applicable, and took into account projections made by all carriers to meet the anticipated demand for all types of transportation facilities assuming all MFBI's studied were to receive orders under Section 2(a) of ESECA. The L&N indicated that transportation facilities at nine sites within BOM District 8 served by the L&N are in good condition and that loading facilities could handle the required coal volumes.

FEA has not found nor has it been informed of any apparent constraints to carrying coal for any alternate or intermediate carriers should they be used.

4. *Destination carrier and MFBI facilities.* Monsanto has indicated that no coal facilities are currently available. A study being conducted by Monsanto should be completed by mid-1977. It is expected that these installations can be accomplished prior to the effective date for coal burning.

There are no other obstacles to the delivery of coal to these MFBI's.

5. *Conclusion.* Coal transportation facilities will be available for the period a Prohibition Order is expected to be in effect since no major constraints to coal delivery over the primary route to Pensacola 1, 2, 3, 4, 5, and 6 presently exist, and alternate routes are available.

Appendix—Proposed Findings and Rationale for Notice of Intention To Issue a Prohibition Order

ESECA and the FEA regulations require FEA to make certain findings before issuing a Prohibition Order to a major fuel burning installation (MFBI). FEA's proposed findings are set out below with respect to the MFBI's named below. Supporting rationale and conclusions are also set forth.

Docket No.	Owner	Installation	Unit No.	Location
OCU-2612	Bowater Corp., Ltd., Bowater Southern Paper Corp.	Calhoun mill	1, 2, 3, 4, 5	Calhoun, Tenn.

These findings, which are now proposed by FEA, are based on the information that has been provided to and developed by FEA prior to the issuance of this Notice of Intention (NOI) to issue a Prohibition Order.

Bowater Southern Paper Corporation, a wholly-owned subsidiary, through other subsidiaries, of Bowater Corporation, Ltd., London, England shall be referred to as the "owner" and as "Bowater Southern". Calhoun Mill Units 1, 2, 3, 4, and 5 shall be referred to as the "MFBI's" and as "Calhoun 1, 2, 3, 4, and 5".

1. *Capability and necessary plant equipment to burn coal.*

FEA proposes to find that on June 22, 1974, Calhoun 1, 2, 3, 4, and 5 had the capability and necessary plant equipment to burn coal. This proposed finding is based on the facts and interpretations stated below:

A. Bowater Southern, in a Major Fuel Burning Installation Coal Conversion Report, Section II, Questions 6, and 12–14, (Form FEA C–602–S–0), filed on May 30, 1975, indicated that each MFBI had in place on June 22, 1974, a boiler that was capable of burning coal. The boilers had been designed and constructed or modified to burn coal as their primary energy source, notwithstanding the fact that on June 22, 1974, the MFBI's may not have been burning coal as their primary energy source.

B. Based on information Bowater Southern filed with FEA dated March 7, 1977, and other information available to FEA, the following plant equipment and facilities at Calhoun 1, 2, 3, 4, and 5 would have to be acquired or refurbished in order for these MFBI's to burn coal as their primary energy source:

1. Combustors; 2. Soot blowers; 3. Unloaders; 4. Conveyors; 5. Crushers; 6. Pulverizers; 7. Scales; 8. Feeders; 9. Air heaters; 10. Controls; 11. Ash handling equipment.

C. FEA proposes to find that on June 22, 1974, Calhoun 1, 2, 3, 4, and 5 had all other significant plant equipment and facilities associated with the burning of coal.

D. Within the meaning of ESECA and the regulations pursuant thereto, the equipment and facilities listed in paragraph B, above, do not individually or in combination constitute a lack of capability and necessary plant equipment to burn coal as of June 22, 1974.

II. *The burning of coal in lieu of natural gas or petroleum products is practicable and consistent with the purposes of ESECA.*

FEA proposes to find that the burning of coal in lieu of petroleum products or natural gas at Calhoun 1, 2, 3, 4, and 5 is practicable and consistent with the purposes of ESECA. This proposed finding is based upon an analysis by FEA of the fuel consumption of these boilers for the period 1974–1976, the remaining life of each boiler after conversion, the net operating cost differential that would result from compliance with a Prohibition Order, as well as the facts and interpretations referenced below:

A. *The burning of coal is practicable.* 1. *Anticipated fuel supplies—Curtailment of natural gas supply.* Based on information obtained from the Federal Power Commission the natural gas supplier, and in certain cases the owner, FEA presumes that these MFBI's will experience a substantial curtailment of their present supply of natural gas. This curtailment will result in increased reliance on alternate fuels in the future.

2. *Costs associated with burning coal.* a. *Capital investment costs.* The total estimated initial capital investment costs, including financing costs, that would result from the acquisition and refurbishment of equipment and facilities associated with the burning of coal at Calhoun 1, 2, 3, 4, and 5 have been determined.

This determination was based on existing FEA information and analysis as well as information filed with FEA by the owner. Approximate costs to comply with applicable environmental protection requirements have also been considered, including the cost of compliance with the air pollution control requirements of the Clean Air Act.

b. *Annual operating and maintenance costs.* The expected increase in operating and maintenance costs, exclusive of fuel costs, that would result from the burning of coal has been calculated based on information supplied by the owner or otherwise acquired by FEA.

c. *Fuel costs.* Based on an analysis of annual fuel consumption and fuel cost information supplied by the owner and/or, in appropriate circumstances, upon FEA's fuel cost estimates, FEA has determined that the burning of coal in lieu of natural gas or petroleum products at Calhoun 1, 2, 3, 4, and 5 will result in a decrease in annual fuel costs.

d. *Net operating cost differential.* Based on the factors stated in paragraphs A.1. a.–c., above, as well as the expected remaining useful life of the boilers after conversion, FEA has determined that the net anual operating cost differential, hereafter "NOCD", (which represents the difference between operating the boilers with coal and alternate fuel(s) as their primary energy source), resulting from the conversion of Calhoun 1, 2, 3, 4, and 5 will represent an annual cost increase of $621,033.

3. *Reasonableness of additional costs of burning coal.* The following analysis of the costs of conversion provides the basis for deciding that compliance with the proposed order is not unreasonable.

By converting from burning natural gas to burning coal as the primary energy source these MFBI's would experience a net annual operating cost increase, but would save a substantial amount of natural gas. This cost would only be incurred for a limited period because these MFBI's will eventually experience a substantial curtailment of their supply of natural gas. If the prohibition order were not issued to these MFBI's they could alternatively replace their current natural gas supply with either petroleum products or coal for the period following such substantial curtailment of their natural gas supply.

In the calculation of the NOCD, FEA has considered oil as a substitute fuel for curtailed natural gas. In calculating the NOCD, in those instances where the MFBI has experienced no curtailment of its natural gas supply, FEA considered the present fuel usage. The net annual operating cost increase for these MFBI's resulting from operating on coal as their primary energy source, instead of petroleum products (and/or natural gas where applicable), will be approximately $621,033.

Although the use of the coal alternative, instead of potential petroleum products, could be expected to result in a net annual operating cost increase, FEA has determined that the prohibition of burning natural gas or petroleum products as the primary energy source at Calhoun 1, 2, 3, 4, and 5 is not unreasonable.

Burning of coal by these MFBI's as their primary energy source instead of petroleum products would result in additional capital investment costs and annual operating and maintenance costs exclusive of fuel costs. Any additional conversion costs would, however, be mitigated by the savings in fuel costs inherent in burning coal. Notwithstanding the fact that these MFBI's could experience annual savings in their total fuel costs should they convert to coal instead of converting to petroleum products, there would be a net increase in the costs to these MFBI's.

Although conversion to the burning of coal instead of petroleum products would be expected to increase the costs incurred by Calhoun 1, 2, 3, 4, and 5 by $621,033 per year, FEA proposes to find that such increased cost, per barrel of oil saved is not unreasonable given the purposes of ESECA. This determination is based on consideration of the substantial potential oil savings that would result from conversion to coal. The determination that the costs of burning coal instead of petroleum products would not be unreasonable is further supported by consideration of such costs in relation to the expected remaining useful life of these MFBI's, the size and resources of the owner as examined in the following discussion of financial capability, and the nature of the expected operations of these MFBI's.

The additional costs that would be incurred if FEA were to prohibit the burning of natural gas or petroleum products as the primary energy source at Calhoun 1, 2, 3, 4, and 5 would only be incurred for a limited period of time. In view of the scarcity of national supplies of natural gas and the likelihood that Calhoun 1, 2, 3, 4, and 5 will experience a substantial curtailment of its present natural gas supply in the future, FEA has determined that the cost of burning coal in lieu of natural gas is not unreasonable. (Final Report Oil and Gas Resources, Reserves, and Productive Capacities Volumes I and II, Federal Energy Administration, October 1975.)

4. *Financial capability of the owner.* a. *Recovery of capital investment.* FEA proposes to find that compliance with a Prohibition Order by Calhoun 1, 2, 3, 4, and 5 would be economically feasible. FEA's analysis took into consideration the financial capibility of the owner and is based upon the owner's financial position as reported in the Dun and Bradstreet Reference Book (March 1977). Where necessary, FEA performed an independent analysis of the owner's financial capability, considering such factors as the owner's current financial statement and the additional capital investment required for the owner to comply with this NOI and all other NOI's which are currently under consideration, as well as additional capital investment costs related to all other Notices of Intention, to date, if any, to issue Prohibition or Construction Orders, and from all outstanding Prohibition or Construction Orders, if any, issued to date under authority of Section 2 (a) and (c) of ESECA to MFBI's owned by Bowater Southern.

FEA related these additional capital investment costs to the total capitalization of Bowater Southern and the remaining useful life after conversion of Calhoun 1, 2, 3, 4, and 5.

FEA does not consider the effect of the added capital investment costs to represent an unreasonable burden given the financial capabilities of the owner to assume such costs.

b. *Total annual costs associated with conversion.* The total estimated annual increase in costs (amortized increased capital investment costs and other costs, exclusive of fuel costs) associated with the burning of coal as opposed to oil and natural gas attributable to compliance with this NOI and all other NOI's which are currently under consideration has been determined. FEA also took into consideration total annual costs resulting from compliance with all other Notices of Intention, to date, if any, to issue Prohibition or Construction Orders, and from all outstanding Prohibition or Construction Orders, if any, issued to date under authority of Section 2 (a) and (c) of ESECA to Bowater Southern MFBI's.

Notwithstanding the potential offsetting value of fuel cost savings attributable to compliance with this NOI and all other NOI's currently under consideration, Bowater Southern's total annual costs after conversion will increase by $621,033.

B. *Consistency with the purposes of ESECA.* Because the issuance of a Prohibition Order to Calhoun 1, 2, 3, 4, and 5 will discourage the use of natural gas or petroleum products and encourage the increased use of coal, FEA proposes to conclude that this action would be consistent with the purpose of ESECA to provide a means to assist in meeting the essential needs of the United States for fuels.

On the basis of the environmental analysis which FEA is required to conduct prior to issuance of a Notice of Effectiveness of a Prohibition Order, as well as the necessity for these MFBI's to comply with the Clean Air Act and other applicable environmental protection requirements, FEA proposes to conclude that a Prohibition Order to Calhoun 1, 2, 3, 4, and 5 would be consistent with the purpose of ESECA to provide for a means to assist in meeting the essential needs of the United States for fuels in a manner which is consistent, to the fullest extent practicable, with existing national commitments to protect and improve the environment.

III. *Coal and coal transportation facilities*

will be available to these MFBI's during the period until December 31, 1984.

A. *Coal availability.* 1. *National coal reserves.* United States coal reserves are more than sufficient to supply national needs for the foreseeable future. U.S. Department of the Interior, Bureau of Mines (BOM) data show a demonstrated coal reserve base of over 400 billion tons, over half of which is currently technically and economically recoverable (Demonstrated Coal Reserve Base of the United States by Sulfur Category, on January 1, 1974, Bureau of Mines (May 1975) (hereafter "BOM Survey")). Within these recoverable reserves approximately 200 billion tons contain 1% or less sulfur by weight. To determine when certain quantities of these reserves are expected to be available, FEA has examined several studies referenced herein, which together provide the best current evidence as to coal availability for the period ending December 31, 1984.

2. *National coal production and demand.* The comparison, stated below, of estimated national coal production, national coal demand, and the total tonnage of uncommitted planned national coal production (derived from responses to a survey of coal producing companies) shows that there should be sufficient production of coal to meet the total national demand through 1980. Beyond 1980, plans for new production are not yet fully developed because few coal producers have firm expansion plans that extend that far into the future; however, the projected total planned national coal production for 1985 already meets 99% of the total U.S. demand expected in 1985. With time, more potential mine developments will become firm plans, thus increasing the planned production.

a. *National Coal Production.* It is conservatively estimated that it will be practicable to produce coal nationally in at least the following quantities:

Year:	*Production potential (million tons)*
1977	732.3
1978	791.6
1979	851.4
1980	911.7
1981	960.0
1982	994.3
1983	1,017.4
1984	1,028.7
1985	1,029.6

The figures shown above are derived from FEA's Coal Mine Expansion Study (May 1976). This study demonstrates that most coal producers did not have firm or accurate plans for new capacity additions beyond 1980. The 1985 projection, therefore, tends to underestimate actual production potential.

An FEA study, *Coal Availability Report*, April 1977, (hereafter "Availability Report"), indicates current plans for nationwide production of uncommitted coal as follows:

Year:	*Production (million tons)*
1978	124.3
1979	243.1
1980	293.3
1981	350.0
1982	369.9
1983	396.2
1984	475.5
1985	544.9

b. *National demand exclusive of ESECA prohibition order demand.* The estimated national demand, excluding any increased demand resulting from FEA action under the authority of Section 2(a) of ESECA, is as follows (FEA 1976 National Energy Outlook):

Year:	*Demand (million tons)*
1977	698
1978	730
1979	764
1980	799
1981	842
1982	887
1983	935
1984	985
1985	1,040

c. *National ESECA prohibition order demand.* The estimated potential demand for coal resulting from this NOI, from all other Notices of Intention to issue Prohibition Orders to date and from all outstanding Prohibition Orders issued to date under authority of Section 2(a) of ESECA is no more than the following ("Availability Report"):

Year:	*Demand (million tons)*
1978	11.0
1979	22.4
1980	32.5
1981	35.8
1982	57.4
1983	59.8
1984	59.8

3. *Characteristic coal production and demand.* FEA's "Availability Report" identifies coal of specific quality characteristics available for use at these MFBI's. The survey is based on data from 31 mining companies that supplied useful information on 96 mining units. Responses from these companies identified planned production of coal which is not now committed to a specific buyer. For those companies which did not respond to the survey, FEA estimated their uncommitted planned production based on their 1974 production.

a. *Characteristic coal requirements for these MFBI's.* FEA's "Availability Report" has determined that boilers of the type used at Calhoun 1, 2, 3, 4 and 5 will be able to burn coal of the following characteristics and comply with all applicable air pollution control requirements.

Btu's/lb	[1] 10,000
Moisture (percent)	[2] 15
Ash (percent)	[2] 20
Volatile (percent)	[2] 15
Ash softening temp. (°F)	[1] 2,200
Sulfur (percent) (approximate)	[2] 4.0

[1] Mimimum.
[2] Maximum.

b. *Characteristic coal demand from these MFBI's.* The potential demand for coal, of the type described above, which would result from this NOI is estimated to be as follows:

	Demand (thousand tons)
1980 and thereafter	172

c. *National planned production, characteristic coal.* FEA's "Availability Report" has determined that coal of the type described in paragraph A.3.a., above, is uncommitted to a specific buyer and will be potentially available to these MFBI's in a nationwide market as follows:

Year:	*Production (thousand tons)*
1978	124,800
1979	243,100
1980	293,300
1981	350,000
1982	369,900
1983	396,200
1984	475,500

d. *National ESECA prohibition order demand for coal, regardless of characteristics.* The national planned production of characteristic coal, as stated in paragraph A.3.c., above, exceeds potential demand for coal regardless of characteristics expected from this NOI, from all other Notices of Intention to issue Prohibition Orders to date and from all outstanding Prohibition Orders issued to date under authority of Section 2(a) of ESECA. National ESECA Prohibition Order demand as previously stated in paragraph A.2.c., above, is no more than the following ("Availability Report"):

Year:	*Demand (thousand tons)*
1978	11,032
1979	22,434
1980	32,483
1981	35,755
1982	57,362
1983	59,815
1984	59,815

e. *Regional planned production, characteristic coal.* Coal with the characteristics described in paragraph A.3.a., above, is uncommitted and will be potentially available to these MFBI's (in a probable regional supply/demand relationship related to the location of these MFBI's) from BOM Districts 7, 8 and 13 as follows ("Availability Report"):

Year:	*Production (thousand tons)*
1978	28,934
1979	52,077
1980	58,396
1981	67,882
1982	71,985
1983	77,660
1984	89,345

f. *Regional ESECA prohibition order demand for coal, regardless of characteristic.* The expected regional production of characteristic coal, as stated in paragraph A.3.e., above, exceeds the potential demand for coal regardless of characteristic from BOM Districts 7, 8 and 13 expected to result from this NOI, from all other Notices of Intention to issue Prohibition Orders to date and from all outstanding Prohibition Orders issued to date under authority of Section 2(a) of ESECA. This potential regional demand is estimated in FEA's "Availability Report" to be no more than the following:

Year:	*Demand (thousand tons)*
1978	3,268
1979	9,149
1980	16,321
1981	18,005
1982	23,682
1983	24,095
1984	24,095

g. *Regional ESECA prohibition order demand for coal by sulfur characteristic.* The potential regional demand for coal from BOM Districts 7, 8 and 13 with a 2.21–4.01% sulfur content (which includes the 4.0% maximum sulfur content described in paragraph A.3.a., above) resulting from this NOI, from all other Notices of Intention to issue Prohibition Orders to date and from all outstanding Prohibition Orders issued to date under authority of Section 2(a) of ESECA is estimated in FEA's "Availability Report" to be no more than the following:

Year:	*Demand (thousand tons) percent sulfur 2.21–4.01*
1978	77
1979	1,330
1980	1,530
1981	1,531
1982	1,531
1983	1,531
1984	1,531

The regional planned production of coal stated in paragraph A.3.e., above, with the characteristics described in paragraph A.3.a., above, far exceeds this potential ESECA regional demand for coal by sulfur characteristic.

4. *State or local laws.* FEA has found no state or local laws or policies limiting the extraction of utilization of coal that would adversely affect these production figures, and none have been brought to FEA's attention.

5. *Conclusion.* FEA's "Availability Report" has identified nationally and in BOM Districts 7, 8 and 13 uncommitted coal production that meets the requirements of Calhoun 1, 2, 3, 4 and 5 as described in paragraph A.3.a., above. FEA proposes to find that this uncommitted coal exists in amounts sufficient in any year to meet the estimated additional demand for coal, both nationally and from these Districts, resulting from this NOI, from all other Notices of Intention to issue Prohibition Orders issued to date and from all outstanding Prohibition Orders issued to date under authority of Section 2(a) of ESECA.

Coal for these MFBI's will probably be bought from producers according to regional supply/demand relationships related to these MFBI's location from BOM Districts 7, 8 and 13. FEA observes, however, that these MFBI's could purchase coal in other markets as such production becomes available. (*The Feasibility of Considering Expanded Use of Western Coal by Midwestern and Eastern Utilities in the Period 1978 and Beyond*, School of Engineering, University of Pennsylvania, November 7, 1975.)

B. *Coal transportation.*—1. *Location of MFBI's and coal supply.* Based on an FEA study, *Coal Transportation Availability Report*, April 1977, (hereafter "Transportation Availability Report"), coal for Calhoun 1, 2, 3, 4 and 5 would probably come from BOM District 8 as both the primary and alternate source of supply. While this supply region is the nearest available source able to supply complying coal to the plant, complying coal could be transferred by rail from other identified sources within the United States as well. The analysis of transportation availability is based on the most likely route as well as one alternate route. These routes were chosen to demonstrate transportation availability.

2. *Route of coal shipment.* The primary route for coal delivery for Calhoun 1, 2, 3, 4 and 5 is to originate coal in BOM District 8 near Somerset, Kentucky on the Southern Railway. Southern would carry the coal via Knoxville, Tennessee and deliver it to Calhoun 1, 2, 3, 4 and 5. The total rail distance is about 233 miles.

The alternate route from the primary supply area originates coal in Corbin, Kentucky on the Louisville and Nashville Railroad (L&N) which moves it via Knoxville, Tennessee and Patty, Tennessee and delivers it to Calhoun 1, 2, 3, 4 and 5. The total rail distance is about 183 miles.

3. *Originating trunk carrier.* The Southern Railway, the originating carrier of coal for Calhoun 1, 2, 3, 4 and 5 has about 14,000 hopper cars in service. Using an average number of 20 deliveries per year per 88-ton car, the Southern may need as many as 132 additional cars to handle the increased demand from Calhoun 1, 2, 3, 4 and 5.

This estimate assumes that the railroad would neither have excess originating capacity nor obtain cars from other carriers in the originating vicinity.

FEA's "Transportation Availability Report concluded that for all potential Prohibition Order candidates studied, there would be no major constraints in transporting coal. This study examined existing rail transportation car capacity, water transportation capacity, including unloading docks, where applicable, and took into account projections made by all carriers to meet the anticipated demand for all types of transportation facilities assuming all MFBI's studied were to receive orders under Section 2(a) of ESECA.

FEA has not found nor has it been informed of any apparent constraints to carrying coal for any originating alternate or intermediate carriers should they be used.

4. *Destination carrier and MFBI facilities.* Bowater Southern has indicated that coal would be shipped to it by Southern and L&N.

There are no other obstacles to the delivery of coal to Calhoun 1, 2, 3, 4 and 5.

5. *Conclusion.* Coal transportation facilities will be available for the period a Prohibition Order is expected to be in effect since no major constraints to coal delivery over the primary route to Calhoun 1, 2, 3, 4, and 5 presently exist, and alternate routes are available.

APPENDIX—PROPOSED FINDINGS AND RATIONALE FOR NOTICE OF INTENTION TO ISSUE A PROHIBITION ORDER

ESECA and the FEA regulations require FEA to make certain findings before issuing a Prohibition Order to a major fuel burning installation (MFBI). FEA's proposed findings are set out below with respect to the MFBI's named below. Supporting rationale and conclusions are also set forth.

Docket No.	Owner	Installation	Unit No.	Location
OCU-3066	Westvaco Corp.	Charleston plant	4, 5	Charleston, S.C.

These findings, which are now proposed by FEA, are based on the information that has been provided to and developed by FEA prior to the issuance of this Notice of Intention (NOI) to issue a Prohibition Order.

Westvaco Corporation shall be referred to as the "owner" and as "Westvaco". Charleston Plant Units 4 and 5 shall be referred to as the "MFBI's" and as "Charleston 4 and 5".

I. *Capability and necessary plant equipment to burn cial.*

FEA proposes to find that on June 22, 1974, Charleston 4 and 5 had the capability and necessary plant equipment burn coal. This proposed finding is based on the facts and interpretations stated below:

A. Westvaco, in a Major Fuel Burning Installation Coal Conversion Report, Section II, Questions 6, and 12–14, (Form FEA C–602–S–0) filed on June 30, 1975 indicated that each MFBI had in place on June 22, 1974, a boiler that was capable of burning coal. The boilers had been designed and constructed or modified to burn coal as their primary energy source, notwithstanding the fact that on June 22, 1974, the MFBI's may not have been burning coal as their primary energy source.

B. Based on information Westvaco filed with FEA dated July 22, 1976, and other information available to FEA, the following plant equipment and facilities at Charleston 4 and 5 would have to be acquired or refurbished in order for these MFBI's to burn coal as their primary energy source:

1. Unloaders.
2. Conveyors.
3. Scales and feeders.
4. Bunkers and silos.
5. Stack reclaimer.
6. Soot blowers.
7. Combustion controls.
8. Fans.
9. Feed ducts.
10. Ash handling and ponding equipment.
11. Pulverizers and crushers.
12. Burners.
13. Air heater.

C. FEA proposes to find that on June 22, 1974, Charleston 4 and 5 had all other significant plant equipment and facilities associated with the burning of coal.

D. Within the meaning of ESECA and the regulations promulgated pursuant thereto, the equipment and facilities listed in paragraph B, above, do not individually or in combination constitute a lack of capability and necessary plant equipment to burn coal as of June 22, 1974.

II. *The burning of coal in lieu of natural gas or petroleum products is practicable and consistent with the purposes of ESECA.*

FEA proposes to find that the burning of coal in lieu of petroleum products or natural gas at Charleston 4 and 5 is practicable and consistent with the purposes of ESECA. This proposed finding is based upon an analysis by FEA of the fuel consumption of these boilers for the period 1973–76, the remaining useful service life of the boilers after conversion, the net operating cost differential that would result from compliance with a Prohibition Order, as well as the facts and interpretations referenced below:

A. *The burning of coal is practicable.*—1. *Costs associated with burning coal.*—a. *Capital investment costs.* The total estimated initial capital investment costs, including financing costs, that would result from the acquisition and refurbishment of equipment and facilities associated with the burning of coal at Charleston 4 and 5 have been determined.

This determination was based on existing FEA information and analysis as well as information filed with FEA by the owner. Approximate costs to comply with applicable environmental protection requirements have also been considered, including the cost of compliance with the air pollution control requirements of the Clean Air Act.

b. *Annual operating and maintenance costs.* The expected increase in operating and maintenance costs, exclusive of fuel costs, that would result from the burning of coal has been calculated based on information supplied by the owner or otherwise acquired by FEA.

c. *Fuel costs.* Based on an analysis of annual fuel consumption and fuel cost information supplied by the owner and/or, in appropriate circumstances, upon FEA's fuel cost estimates, FEA has determined that the burning of coal in lieu of natural gas or petroleum products at Charleston 4 and 5 will result in a decrease in annual fuel costs.

d. *Net operating cost differential.* Based on the factors stated in paragraphs A.1.a.–c., above, as well as the expected remaining useful life of the boilers after conversion, FEA has determined that the net annual operating cost differential (which represents the difference between operating the boilers with coal and alternate fuel(s) as their primary energy source), resulting from the

conversion of Charelston 4 and 5 will represent an annual cost increase of $24,659.

2. *Reasonableness of costs of conversion.* The foregoing analysis of the costs of conversion provided the basis for deciding whether the conversion of Charleston 4 and 5 is reasonable.

As a result of conversion, Westvaco will incur additional capital investment costs, including financing costs, and additional annual operating and maintenance costs, exclusive of fuel costs, but will experience an annual savings in its total fuel costs for the expected remaining useful service life of the boilers after conversion.

Increased costs of conversion will be mitigated by the decrease in fuel costs. The net result, however, will be an increase in the annual cost of operating the boilers.

The use of coal at Charleston 4 and 5 will result in a substantial annual savings of barrels of oil that otherwise would be used as a boiler fuel.

Although conversion to the burning of coal would be expected to increase the cost of operating at Charleston 4 and 5, FEA proposes to find that such increased cost, per barrel of oil saved, is not unreasonable. This is based on consideration of the substantial savings of oil that will result from this conversion. The determination that the costs of converting are not unreasonable is further supported by consideration of such costs in relation to the expected remaining useful life of the boilers after conversion, the size and resources of Westvaco as examined in the following analysis of financial capability, the nature of the expected operation of these boilers and potential future increases in the fuel cost differential in favor of coal.

3. *Financial capability of the owner.*—a. *Recovery of capital investment.* FEA proposes to find that compliance with a Prohibition Order by Charleston 4 and 5 would be economically feasible. FEA's analysis took into consideration the financial capability of the owner and is based upon the owner's financial position as reported in the Dun and Bradstreet Reference Book (March 1977). Where necessary FEA performed an independent analysis of the owner's financial capability, considering such factors as the owner's current financial statement and the additional capital investment required for the owner to comply with this NOI and all other NOI's which are currently under consideration, as well as additional capital investment costs related to all other Notices of Intention, to date, if any, to issue Prohibition or Construction Orders, and from all outstanding Prohibition or Construction Orders, if any, issued to date under authority of Section 2 (a) and (c) of ESECA to MFBI's owned by Westvaco. FEA related these additional capital investment costs to the total capitalization of Westvaco and the remaining useful life after conversion of Charleston 4 and 5.

FEA does not consider the effect of the added capital investment costs to represent an unreasonable burden given the financial capabilities of Westvaco to assume such costs.

b. *Total annual costs associated with conversion.* The total estimated annual increase in costs (amortized increased capital investment costs and other costs, exclusive of fuel costs) associated with the burning of coal as opposed to oil attributable to compliance with this NOI and all other NOI's which are currently under consideration has been determined. FEA also took into consideration total annual costs resulting from compliance with all other Notices of Intention, to date, if any, to issue Prohibition or Construction Orders, and from all outstanding Prohibition or Construction Orders, if any, issued to date under authority of Section 2 (a) and (c) of ESECA to Westvaco MFBI's.

Notwithstanding the potential offsetting value of fuel cost savings, attributable to compliance with this NOI and all other NOI's currently under consideration, Westvaco's total annual costs after conversion will increase by $24,659.

B. *Consistency with the purposes of ESECA.* Because the issuance of a Prohibition Order to Charleston 4 and 5 will discourage the use of natural gas or petroleum products and encourage the increased use of coal, FEA proposes to conclude that this action would be consistent with the purpose of ESECA to provide a means to assist in meeting the essential needs of the United States for fuels.

On the basis of the environmental analysis which FEA is required to conduct prior to issuance of a Notice of Effectiveness of a Prohibition Order, as well as the necessity for these MFBI's to comply with the Clean Air Act and other applicable environmental protection requirements, FEA proposes to conclude that a Prohibition Order to Charleston 4 and 5 would be consistent with the purpose of ESECA to provide for a means to assist in meeting the essential needs of the United States for fuels in a manner which is consistent, to the fullest exent practicable, with existing national commitments to protect and improve the environment.

III. *Coal and coal transportation facilities will be available to these MFBI's during the period until December 31, 1984.*

A. *Coal availability.*—1. *National coal reserves.* United States coal reserves are more than sufficient to supply national needs for the foreseeable future. U.S. Department of the Interior, Bureau of Mines (BOM) data show a demonstrated coal reserve base of over 400 billion tons, over half of which is currently technically and economically recoverable (*Demonstrated Coal Reserve Base of the United States by Sulfur Category, on January 1, 1974*, Bureau of Mines (May 1975) [hereafter "BOM Survey"]). Within these recoverable reserves approximately 200 billion tons contain 1% or less sulfur by weight. To determine when certain quantities of these reserves are expected to be available, FEA has examined several studies referenced herein, which together provide the best current evidence as to coal availability for the period ending December 31, 1984.

2. *National coal production and demand.* The comparison, stated below, of estimated national coal production, national coal demand, and the total tonnage of uncommitted planned national coal production (derived from responses to a survey of coal producing companies) shows that there should be sufficient production of coal to meet the total national demand through 1980. Beyond 1980, plans for new production are not yet fully developed because few coal producers have firm expansion plans that extend that far into the future; however, the projected total planned national coal production for 1985 already meets 99% of the total U.S. demand expected in 1985. With time, more potential mine developments will become firm plans, thus increasing the planned production.

a. *National coal production.* It is conservatively estimated that it will be practicable to produce coal nationally in at least the following quantities:

Year:	*Production potential (million tons)*
1977	732.3
1978	791.6
1979	851.4
1980	911.7
1981	960.0
1982	994.3
1983	1,017.4
1984	1,028.7
1985	1,029.6

The figures shown above are derived from FEA's *Coal Mine Expansion Study* (May 1976). This study demonstrates that most coal producers did not have firm or accurate plans for new capacity additions beyond 1980. The 1985 projection, therefore, tends to underestimate actual production potential.

An FEA study, *Coal Availability Report*, April 1977, (hereafter "Availability Report"), indicates current plans for nationwide production of uncommitted coal as follows:

Year:	*Production (million tons)*
1978	124.3
1979	243.1
1980	293.3
1981	350.0
1982	369.9
1983	396.2
1984	475.5
1985	544.9

b. *National demand exclusive of ESECA prohibition order demand.* The estimated national demand, excluding any increased demand resulting from FEA action under the authority of Section 2(a) of ESECA, is as follows (FEA 1976 National Energy Outlook):

Year:	*Demand (million tons)*
1978	730
1979	764
1980	799
1981	842
1982	887
1983	935
1984	985
1985	1,040

c. *National ESECA prohibition order demand.* The estimated potential demand for coal resulting from this NOI, from all other Notices of Intention to issue Prohibition Orders to date and from all outstanding Prohibition Orders issued to date under authority of Section 2(a) of ESECA is no more than the following ("Availability Report"):

Year:	*Demand (million tons)*
1978	11.0
1979	22.4
1980	32.5
1981	35.8
1982	57.4
1983	59.8
1984	59.8

3. *Characteristic coal production and demand.* FEA's "Availability Report" identifies coal of specific quality characteristics available for use at these MFBI's. The survey is based on data from 31 mining companies that supplied useful information on 96 mining units. Responses from these companies identified planned production of coal which is not now committed to a specific buyer. For those companies which did not respond to the survey, FEA estimated their

uncommitted planned production based on their 1974 production.

a. *Characteristic coal requirements for these MFBI's.* FEA's "Availability Report" has determined that boilers of the type used at Charleston 4 and 5 will be able to burn coal of the following characteristics and comply with all applicable air pollution control requirements.

Btu's/lb	[1] 10,000
Moisture (percent)	[2] 15
Ash (percent)	[2] 20
Volatile (percent)	[1] 15
Ash softening temp. (°F)	[1] 2,200
Sulphur (percent, approximate)	[2] 1.5

[1] Minimum.
[2] Maximum.

b. *Characteristic coal demand from these MFBI's.* The potential demand for coal, of the type described above, which would result from this NOI is estimated to be as follows:

	Demand (thousand tons)
1980 and thereafter	187

c. *National planned production, characteristic coal.* FEA's "Availability Report" has determined that coal of the type described in paragraph A.3.a., above, is uncommitted to a specific buyer and will be potentially available to these MFBI's in a nationwide market as follows:

Year:	Production (thousand tons)
1978	67,937
1979	127,138
1980	158,932
1981	189,318
1982	200,259
1983	214,838
1984	253,700

d. *National ESECA prohibition order demand for coal, regardless of characteristics.* The national planned production of characteristic coal, as stated in paragraph A.3.c., above, exceeds potential demand for coal regardless of characteristic expected from this NOI, from all other Notices of Intention to issue Prohibition Orders to date and from all outstanding Prohibition Orders issued to date under authority of Section 2(a) of ESECA. National ESECA Prohibition Order demand as previously stated in paragraph A.2.c., above, is no more than the following ("Availability Report"):

Year:	Demand (thousand tons)
1978	11,032
1979	22,434
1980	32,483
1981	35,755
1982	57,362
1983	59,815
1984	59,815

e. *Regional planned production, characteristic coal.* Coal with the characteristics described in paragraph A.3.a., above, is uncommitted and will be potentially available to these MFBI's (in a probable regional supply/demand relationship related to the location of the MFBI's) from BOM Districts 7, 8 and 13 as follows ("Availability Report"):

Year:	Production (thousand tons)
1978	26,032
1979	47,383
1980	53,082
1981	61,661
1982	65,354
1983	70,552
1984	80,964

f. *Regional ESECA prohibition order demand for coal, regardless of characteristic.* The expected regional production of characteristic coal, as stated in paragraph A.3.e., above, exceeds the potential demand for coal regardless of characteristic from BOM Districts 7, 8 and 13 expected to result from this NOI, from all other Notices of Intention to issue Prohibition Orders to date and from all outstanding Prohibition Orders issued to date under authority of Section 2(a) of ESECA. This potential regional demand is estimated in FEA's "Availability Report" to be no more than the following:

Year:	Demand (thousand tons)
1978	3,268
1979	9,149
1980	16,321
1981	18,005
1982	23,682
1983	24,095
1984	24,095

g. *Regional ESECA prohibition order demand for coal by sulfur characteristic.* The potential regional demand for coal from BOM Districts 7, 8 and 13 with a 1.41–1.8% sulfur content (which includes the 1.5% maximum sulfur content described in paragraph A.3.a., above) resulting from this NOI, from all other Notices of Intention to issue Prohibition Orders to date and from all outstanding Prohibition Orders issued to date under the authority of Section 2(a) of ESECA is estimated in FEA's "Availability Report" to be no more than the following:

Year:	Demand (thousand tons) percent sulfur, 1.41–1.8
1978	226
1979	897
1980	1,773
1981	1,773
1982	1,773
1983	1,773
1984	1,773

The regional planned production of coal stated in paragraph A.3.e., above, with the characteristics described in paragraph A.3.a., above, far exceeds this potential ESECA regional demand for coal by sulfur characteristic.

4. *State or local laws.* FEA has found no state or local laws or policies limiting the extraction or utilization of coal that would adversely affect these production figures, and none have been brought to FEA's attention.

5. *Conclusion.* FEA's "Availability Report" has identified nationally and in BOM Districts 7, 8 and 13 uncommitted coal production that meets the requirements of Charleston 4 and 5 as described in paragraph A.3.a., above. FEA proposes to find that this uncommitted coal exists in amounts sufficient in any year to meet the estimated additional demand for coal, both nationally and from these Districts, resulting from this NOI, from all other Notices of Intention to issue Prohibition Orders to date and from all outstanding Prohibition Orders issued to date under authority of section 2(a) of ESECA.

Coal for these MFBI's will probably be bought from producers according to regional supply/demand relationships related to the MFBI's location from BOM Districts 7, 8 and 13. FEA observes, however, that the MFBI's could purchase coal in other markets as such production becomes available. (*The Feasibility of Considering Expanded Use of Western Coal by Midwestern and Eastern Utilities in the Period 1978 and Beyond*, School of Engineering, University of Pennsylvania, November 7, 1975.)

B. *Coal transportation.*—1. *Location of MFBI's and coal supply.* Based on an FEA study, *Coal Transportation Availability Report*, April 1977, (hereafter "Transportation Availability Report"), coal for Charleston 4 and 5 would probably come from BOM District 8 as the primary supply area and from BOM District 6 as the alternate supply area. While these supply regions are among the nearest available sources able to supply complying coal to the plant, complying coal could be transferred by rail from other identified sources within the United States as well. The analysis of transportation availability is based on the most likely route as well as two alternate routes. These routes were chosen to demonstrate transportation availability.

2. *Route of coal shipment.* The primary route for coal delivery to Charleston 4 and 5 would originate in BOM District 8 in the Somerset, Kentucky area on the Southern Railway Co. (Southern). The Southern would move it via Knoxville, Tennessee to Asheville, North Carolina, Spartanburg, Columbia and Orangeburg, South Carolina for delivery to Charleston 4 and 5. The total rail distance is approximately 585 miles.

The alternate route for coal delivery from the primary supply area originates coal in BOM District 8 in the Corbin, Kentucky area on the Louisville and Nashville (L&N) Railroad. The L&N would move it via Knoxville, Tennessee to Atlanta, Georgia where the Seaboard Coast Line (SCL) would then pick it up and carry it via Augusta Robbins and Yemassee, South Carolina for delivery to Charleston 4 and 5. The total rail distance is about 639 miles.

An alternate route from the alternate supply area would originate coal in BOM District 6 in the Bluefield, West Virginia area on the Norfolk and Western (N&W) which would move the coal via Roanoke, Virginia to Walnut Cove, North Carolina. Southern would then pick it up and move the coal via Greensboro and Charlotte, North Carolina to Columbia, South Carolina and deliver the coal to Charleston 4 and 5. The total rail distance is about 557 miles.

3. *Originating trunk carrier.* The Southern Railway, originating carrier of coal for Charleston 4 and 5 has about 14,000 hopper cars in service. Using an average number of deliveries of 20 per year per 88-ton car, the Southern may need as many as 197 additional cars to handle the increased demand from Charleston 4 and 5. This estimate assumes that the railroad would neither have excess originating capacity nor obtain cars from other carriers in the originating vicinity.

FEA's "Transportation Availability Report" concluded that for all potential Prohibition Order candidates studied, there would be no major constraints in transporting coal. This study examined existing rail transportation car capacity, water transportation capacity, including unloading docks, where applicable, and took into account projections made by all carriers to meet the anticipated demand for all types of transportation facilities assuming all MFBI's studied were to receive orders under Section 2(a) of ESECA.

FEA has not found nor has it been informed of any apparent constraints to carrying coal for any alternate or intermediate carriers should they be used.

4. *Destination carrier and MFBI facilities.* Westvaco has indicated that land is available for coal storage. Railroad companies can deliver coal to Charleston 4 and 5.

There are no other obstacles to the delivery of coal to Charleston 4 and 5.

5. *Conclusion.* Coal transportation facilities will be available for the period a Prohibition Order is expected to be in effect since no major constraints to coal delivery over the primary route to Charleston 4 and 5 presently exist, and alternate routes are available.

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